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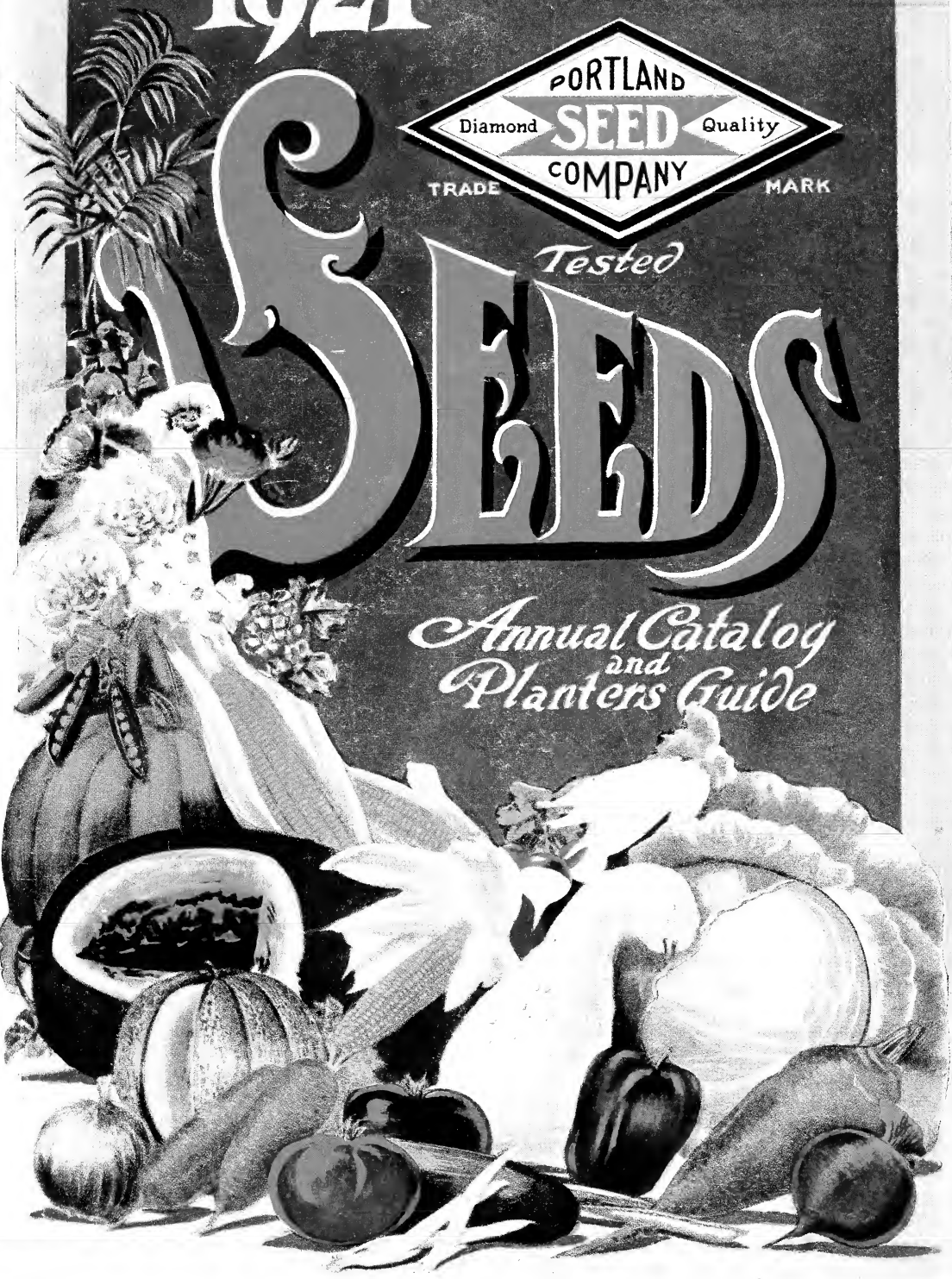


1921



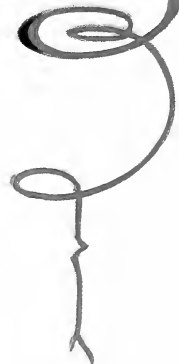
# SEEDS

*Annual Catalog  
and  
Planters Guide*

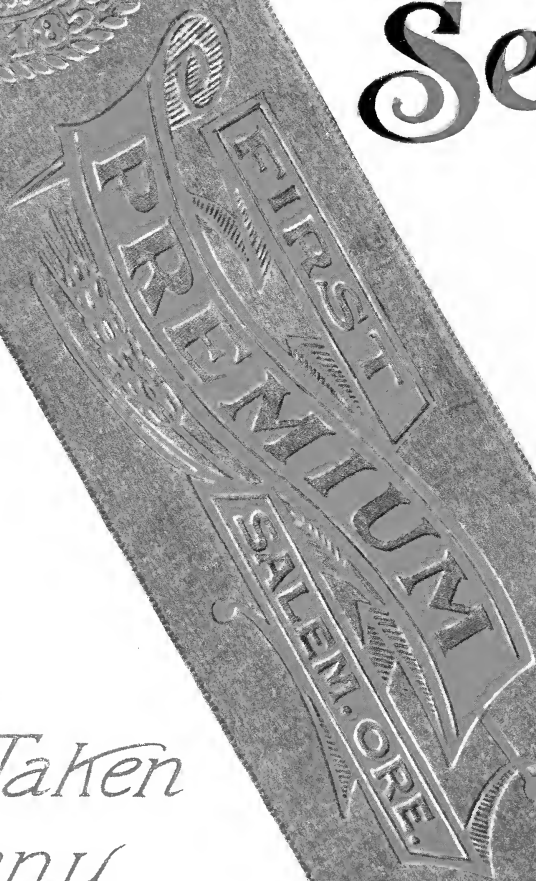


PORTLAND SEED  
COMPANY'S

# Diamond Quality Seeds



*Have Taken  
Many  
Premiums*



1920



# Portland Seed Company's

## Complete Catalog and Seed Annual for 1921



**S**EEDS for 1921—All products of the soil are in big demand at top prices, but the increased cost of production makes it imperative that only the best seeds be used—improved varieties, that will produce profitable commercial crops.

**SEED GRAINS**—The U. S. Grain Standards now make it impossible to market mixed varieties of wheat or other grains at the best prices, and growers will find it necessary and profitable to plant clean, pure seeds of standard varieties. (See grain section of this catalog for those best adapted to the Northwest.)

**OREGON GROWN SEEDS AND PLANTS**—Improved varieties of our own introduction—have stood the test of time and competition and are established standards in the coast markets. Earliest of All and Pride of Multnomah Potatoes, Golden West Sugar Corn, Oregon Yellow Danvers Onions, St. Valentine Broccoli, Shadeland Seed Oats, Oregon Yellow Dent Corn, New Oregon Strawberries, Riverside Giant Rhubarb—have won large returns for growers. They will win for you.

**HOME GARDENS**—Carefully planned and planted the Home Garden will produce through a long season a big supply of delicious fresh vegetables for the table and canning—that will greatly reduce living expenses.

**POULTRY AND BEES**—If you have a yard raise chickens and keep bees. Eggs and poultry are the best of foods, and bees at no expense and with little care, will produce a plentiful supply of honey, the best substitute for and more wholesome than sugar. For the past few years it has been our custom to only include a small section of our Poultry and Bee catalogs in our Annual and to follow the Annual shortly with separate Poultry and Bee catalogs. This season we will discontinue the issue of the Poultry and Bee catalogs and will endeavor to make the sections just as complete in every way but will incorporate them in our Catalog and Seed Annual, and we trust that our patrons will find it fully as satisfactory. The Bulb and Nursery catalog issued as usual.

**USE OUR SERVICE DEPARTMENT**—Our suggestions and recommendations may help you to secure better results, save loss of time and protect you against unnecessary work and expense—a service that is free to you.

**PRICES**—In these days of advancing prices, it is with pleasure that we call your attention to our pre-war prices on our seed packet goods. This is not done by lessening the size of the packet nor of reducing the quality of the seeds, for we use none but the best seeds in our packets. Our seeds are all tested in our seed laboratory for purity and germination and only those seeds that are above the standards are used. Our seeds are not sold on commission, therefore we do not have a quantity of unsold seeds returned to us or carried over. Packets are put up fresh each season and you can make no mistake in using DIAMOND Quality Seed. We take this opportunity of thanking our many customers for their generous patronage in the past, and to assure them that we will continue to do all in our power to merit a continuance of their confidence, and that we aim to give every order, no matter how small or how large, prompt and careful attention.



## WHEN AND HOW TO ORDER

**SEND** in your combined orders for seeds, plants, supplies, etc., at once. We are prepared to fill orders as soon as this Catalog reaches you, and if you do not want all sent now we will send part now and the balance later. The advantage of this is that your order is entered and filled or stock reserved so the complete order or any part can be sent upon notice without delay. If you want part or all of your order held, state it distinctly with date when shipment is to be made. All orders for potatoes, plants and other perishable goods are carefully booked on receipt, and filled in rotation as soon as weather permits. If shipped early, they are at buyer's risk.

**BE SURE TO SIGN YOUR NAME**, giving Postoffice and State. **Do not write letters on the same sheet as orders.**

**USE ORDER BLANK** in the front of your Catalog, **carefully filling out the blank spaces at the top for shipping directions.**

**KEEP A COPY OF YOUR ORDER.** Check goods when received. We use the greatest care in filling, checking and packing orders, but in spite of all, mistakes may occur. Should any happen in your order, advise us promptly, giving order number, and same will be promptly rectified. Do not return goods until you hear from us.

**PRICES.** The prices named in this catalog are those prevailing at the time the catalog goes to press and are subject to market changes in value. Your order will be figured at the price prevailing at the time same is received and where lower you will be protected and refund made according to price. As prices usually advance on many items, toward the planting season, it will be to your advantage to **order early.**

**OUR TERMS ARE STRICTLY CASH WITH ORDER** where arrangements for credit have not been previously made.

**SEEDS POSTPAID BY MAIL.** We send all vegetable and flower seeds in quantities of one pound or less by mail, postpaid, to any Postoffice in the United States, at the prices named in this Catalog **unless otherwise stated.**


**EXPRESS AND FREIGHT.** Seeds sent by freight or express means that we deliver the goods to the express or railway company. The purchaser pays all transportation charges on goods. On moderate sized orders we advise express shipment rather than freight. Upon delivery of goods to transportation company, a sale is completed. In event of loss or damage to goods in transit the purchaser must have notation of such loss placed upon his receipt, and may then file claim for loss at his station, or may send the necessary papers to us when we shall gladly enter claim for him, remitting to him as soon as the claim is paid. Remember that our responsibility ceases on delivery in good order to the transportation company, and it is therefore imperative that every purchase be carefully examined for loss or damage before receiving it.

**WE DO NOT GUARANTEE REPLACEMENT OF GOODS SENT BY MAIL.** An additional remittance of five cents will insure any mail package.

**PREPAY STATIONS.** When you send in orders to go by freight or express be sure that you add money enough to pay freight charges if your station is a prepay point, which is **always the case where there is no regular agent.**

**SPECIAL QUOTATIONS ON LARGE ORDERS.** Any dealer, market gardener, institution or individual wishing seed in large quantities, is requested to mail us a list of what is wanted, and we will promptly return it with the very lowest market prices. **A letter of inquiry may save you dollars** if you want to buy in quantity. If in need of something pertaining to agriculture not herein listed, write us before ordering elsewhere.

**COMPLAINTS OR PRAISES.** If you are well pleased with our goods and the manner of doing business, tell everyone. If you are not, tell us, so we can please you. Our best efforts will be put forth in filling all orders carefully and promptly in a way that will please you.

 **SEND MONEY** by Postoffice or Express Money Order, Bank Draft or Registered Letter. Postage stamps will be accepted for small amounts. Money sent in any other way is entirely at sender's risk.

**NOTE CAREFULLY** that seeds in packets, pounds and less of one variety are **postpaid**; all other items are F. O. B. Portland, Ore., unless the price is stated otherwise, and money should be sent to cover transportation if sent to a station without an agent or if sent parcel post, balances will be promptly returned. A compliance with this will save expense and annoyance and insure quicker delivery. **Advise how you want your goods shipped.**

**BE SURE TO ORDER EARLY—BEFORE STOCKS ARE DEPLETED.**

**Note**—We use every precaution in procuring fresh, pure and reliable seeds, etc., but we, in common with other responsible seed houses, sell our goods subject to the following disclaimer, it being that adopted by the American Seed Trade Association, i. e.:—We give no warranty, express or implied, as to description, quality, productiveness or any other matter of any seeds, bulbs, trees or plants sent out and will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms they are to be returned at once.—Portland Seed Company.



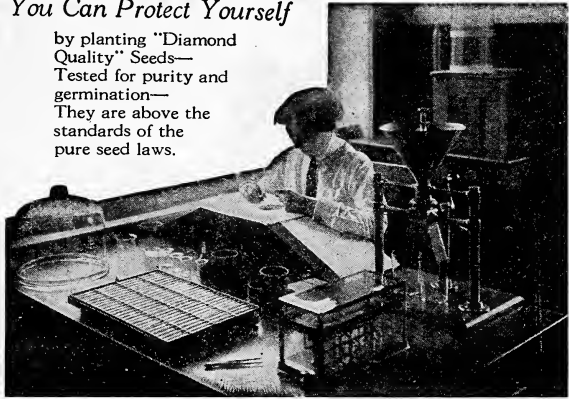
# DIAMOND QUALITY SEEDS

ARE TESTED SEEDS

**T**O further guard the interests of our customers and maintain our standard of excellence, we have installed a modern seed laboratory equipped as recommended by the U. S. Dept. of Agriculture, placing in charge a certified seed analyst. It is here that final tests and inspections are made, and only those seeds that are above the standards are offered to the public, and bear our **Diamond Trade Mark**—the mark of quality that stamps them as the best obtainable.

## You Can Protect Yourself

by planting "Diamond Quality" Seeds—  
Tested for purity and germination—  
They are above the standards of the pure seed laws.



We are the only Seed Company maintaining a seed laboratory in Oregon.

## REFERENCE TABLES

Quantity of Seeds to produce a given number of plants and to sow an acre

	Quantity per acre.
Artichoke, 1 oz. to 500 plants.....	6 oz.
Artichokes—White French.....	8 bu.
Asparagus, 1 oz. to 800 plants.....	1 lb
Asparagus Roots.....	.7500
Barley.....	2 to 2½ bu.
Beans, dwarf, 1 lb. to 100 ft. of drill	1 bu.
Pole, 1 lb. to 100 hills.....	½ bu.
Beet, Garden, 1 oz. to 100 ft. drill 6 to 7 lbs.	
Mangel, 1 oz. to 100 ft. of drill.....	5 lbs.
Broccoli, 1 oz. to 2,000 plants.....	4 oz.
Brussel Sprouts, 1 oz. to 2,000 plants.....	4 oz.
Broom Corn, in Drills.....	15 lbs.
Buckwheat.....	½ to 1 bu.
Cabbage, 1 oz. to 2,000 plants.....	4 oz.
Carrot, ½ oz. to 100 ft. drill.....	3 lbs.
Cauliflower, 1 oz. to 3,000 plants.....	3 to 4 oz.
Celery, 1 oz. to 5,000 plants.....	2 bu.
Cheat.....	2 bu.
Chicory.....	4 lbs.
Clover, Alsike and White.....	8 to 10 lbs.
Alfalfa.....	15 to 20 lbs.
Crimson Trefoil.....	10 to 15 lbs.
Red.....	10 to 15 lbs.
Collards, 1 oz. to 2,000 plants.....	4 oz.
Corn, Pop (shelled).....	8 to 10 lbs.
Sweet or Field, hills.....	12 to 15 lbs.
For soiling drills.....	3 bu.
Cress, ¾ oz. to 100 ft. drill.....	1 lb.
Cucumber, 1 oz. to 100 hills.....	2 to 3 lbs.
Egg Plant, 1 oz. to 2,000 plants.....	4 oz.
Emmer.....	100 lbs.
Endive, ¼ oz. to 100 ft. drill.....	4 lbs.
Flax broadcast.....	¾ bu.
Grass—Kentucky Blue, for pasture	
Kentucky Blue for lawns.....	1 to 2 bu.
Meadow Fescue.....	100 lbs.
Mixed Lawn.....	1 bu.
Red Top, Chaff.....	5 to 6 bu.
Red Top, solid seed.....	1 to 2 bu.
Red Top, solid seed.....	10 to 15 lbs.

	Quantity per acre.
Grass—Cont'd	
Timothy.....	10 to 15 lbs.
Orchard, Perennial Rye.....	1 to 2 bu.
Wood Meadow.....	1 bu.
Horseradish Roots.....	15,000 to 25,000
Kale, 1 oz. to 2,000 plants.....	4 oz.
Kaffir Corn, in drills.....	6 to 10 lbs.
Kohl Rabi, 1 oz. to 2,000 plants.....	4 oz.
Leek, 1 oz. to 100 ft. of drill.....	4 lbs.
Lettuce, 1 oz. to 150 ft. of drill.....	3 lbs.
Mushroom Spawn.....	1 brick to 10 sq. ft.
Millet—For Seed.....	20 lbs.
For Hay.....	30 lbs.
Melon, Musk, 2 oz. to 100 hills.....	2 to 3 lbs.
Water, 4 oz. to 100 hills.....	3 to 4 lbs.
Oats.....	2 to 3 bu.
Okra, 1 oz. to 100 ft. of drill.....	8 lbs.
Onion Seed, for sets.....	60 to 85 lbs.
1 oz. to 150 ft. drill.....	3 to 4 lbs.
Onion Sets, 1 qt. to 40 ft. drill.....	8 bu.
Parsnips, 1 oz. to 150 ft. drill.....	3 lbs.
Parsley, 1 oz. to 150 ft. drill.....	3 lbs.
Peas, Field.....	2 bu.
Garden, 1 lb. to 100 ft. drill.....	1 to 2 bu.
Pepper, 1 oz. to 1,000 plants.....	2 lbs.
Potatoes.....	10 bu.
Pumpkin, ¼ lb. to 100 hills.....	3 to 5 lbs.
Radish, 1 oz. to 100 ft. drill.....	10 lbs.
Rape.....	3 to 5 lbs.
Rye.....	1½ to 2 bu.
Salsify, 1 oz. to 100 ft. drill.....	6 to 8 lbs.
Spinach, 1 oz. to 100 ft. drill.....	8 to 10 lbs.
Sugar Cane, in drills.....	10 lbs.
Sunflower.....	8 lbs.
Squash—Summer, 4 oz. to 100 hills.....	3 lbs.
Winter, 8 oz. to 100 hills.....	4 lbs.
Tomato, 1 oz. to 2,000 plants.....	4 oz.
Tobacco, 1 oz. to 4,000 plants.....	3 oz.
Turnip, 1 oz. to 150 ft. drill.....	2 to 3 lbs.
Vetches.....	1½ to 2 bu.
With Grain.....	1 bu.
Wheat.....	1½ to 2 bu.

## WEIGHTS OF VARIOUS ARTICLES

	PER BUSHEL
Artichokes.....	.60 lbs.
Barley.....	.60 lbs.
Beans.....	.60 lbs.
Buckwheat.....	.48 lbs.
Blue Grass.....	
Kentucky.....	.14 lbs.
English.....	.24 lbs.
Canary Seed.....	.60 lbs.
Cheat.....	.34 lbs.
Clover Seed.....	.60 lbs.
Corn, Shelled.....	.56 lbs.
Charcoal.....	.22 lbs.
Emmer.....	.40 lbs.
Flax Seed.....	.56 lbs.
Grass Seeds (unless otherwise stated).....	.14 lbs.
Hemp Seed.....	.44 lbs.
Hungarian Millet.....	.48 lbs.
Lawn Grass.....	.20 lbs.
Meadow Fescue.....	.24 lbs.
Millet.....	.50 lbs.
Oats.....	.32 lbs.
Onion Sets.....	.32 lbs.
Orchard Grass.....	.14 lbs.
Peach Pits.....	.48 lbs.
Peas, Smooth.....	.60 lbs.
Peas, Wrinkled.....	.56 lbs.
Perennial Rye.....	.20 lbs.
Potatoes.....	.60 lbs.
Rape.....	.60 lbs.
Rye.....	.56 lbs.
Red Top.....	.14 lbs.
Red Top, Solid Seed.....	.42 lbs.
Timothy.....	.45 lbs.
Vetches.....	.70 lbs.
Wheat.....	.60 lbs.

## Number of Plants per acre at various distances

In planting trees the greater distance should be given in the richer soils

DISTANCE APART.....	Square Method	Triangular	DISTANCE APART.....	Square Method	Triangular
1 foot apart each way.....	43,560	50,300	15 feet apart each way.....	193	223
2 feet apart each way.....	10,890	12,575	16 feet apart each way.....	170	196
4 feet apart each way.....	2,722	3,143	20 feet apart each way.....	108	125
6 feet apart each way.....	1,210	1,397	25 feet apart each way.....	70	81
9 feet apart each way.....	537	620	30 feet apart each way.....	48	55
10 feet apart each way.....	435	502	40 feet apart each way.....	27	31



**Diamond Fertilizers**

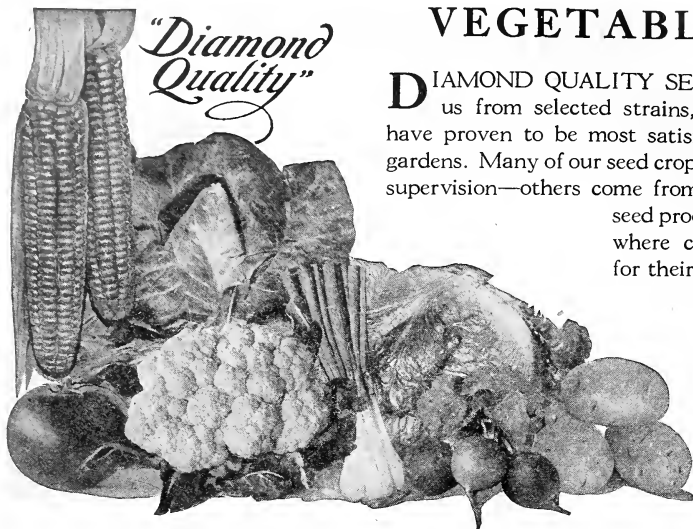
will restore and sustain the productiveness of your soil. They are an investment, not an expense, and will return many times their cost.




## VEGETABLE SEEDS

*"Diamond  
Quality"*

**D**IAMOND QUALITY SEEDS are grown especially for us from selected strains, varieties that years of trial have proven to be most satisfactory for home and market gardens. Many of our seed crops are grown under our personal supervision—others come from the world's great centers of seed production of Europe and America where conditions are most favorable for their perfect development.



### General Notes on Planting and Culture

**W**E have marked those varieties that **mature early** with this little Diamond,  our trademark. This will aid you in the selections for your home garden.

If you live in **Northwestern Oregon or Washington** you will have better success with your garden by planting these early maturing varieties after the Spring weather is settled and the ground warm, than if you planted very early, as many seeds will not give the best results in the cold damp of the early Spring, and even if they live, the plants may be stunted and not grow. These suggestions are only general, as you will note that many special sorts can be planted very early.

If you live in the **Willamette Valley or Southern Oregon** you can plant almost anything as early as the condition of the soil will permit.

**Do not work the soil when it is wet**, as this has a tendency to make it lump and bake and may put it in such shape that nothing can thrive in it. Wait until it is just dry enough to crumble away nicely when turned over, and if you will press the dirt firmly down on the seeds, getting right in the row and tramping the soil down with your feet—they will germinate quickly even in comparatively dry soil. Any extra work in carefully preparing the soil will more than repay you in the increased results, and always remember that constant and thorough cultivation is almost equal to water and fertilizer both, and will insure a good crop even in a dry season, and on ordinary soil.

**New land must be thoroughly broken up and cultivated** in order to make a good seed bed, as new ground in the wooded sections of the Pacific Coast rarely produces bountiful crops the first few seasons without careful culture, fertilizing and rotation.

**It pays to fertilize** and cultivate to supply the necessary plant foods to the growing crops.

**Fertilizers are not an expense** but a profitable investment sure to give big returns if correctly applied and the cultivation and care of the crop is given proper attention.

**Plan your plantings** and keep a garden book or record of some sort, for by so doing you will get the utmost pleasure and profit from your garden and as the seasons pass you will find this record an invaluable aid and reference work. For if you keep a record you will soon learn what varieties are best for your requirements and to know your favorites, and when buying seeds or plants you will know just what to order.

If you are in doubt about what you should do, or want any special information, be sure to write to us. We will be pleased to give your inquiries our careful attention, and advise you to the full extent of our knowledge.

**BOOKS** AN UP-TO-DATE REFERENCE BOOK will save the beginner many times its cost and will suggest improved methods to the experienced. SEE LIST OF STANDARD REFERENCE AND TEXT BOOKS

# ASPARAGUS

**A**SPARAGUS is one of the earliest Spring vegetables, and would be in universal use were it not for the mistaken idea that it is difficult to grow. In reality it can be produced very easily and cheaply and is a profitable market crop. A bed 15x50 feet, requiring about 100 plants, should give an abundant supply for the average family.

**CULTURE**—Soak seeds 24 hours in warm water, sow early in drills one foot apart. An ounce of seed will sow about 300 feet of drill. Keep the soil mellow and free from weeds. After one year's growth transplant into permanent beds that have been carefully prepared by working to a depth of 24 inches, manuring deeply, using old manure and bone meal; 5 feet is a convenient width for a bed that will carry three rows, and can be reached without treading upon it. Set the plants about 18 inches apart in the rows and spread the roots out, firming the soil down on them. If your soil is well drained the bed may be level, but if not it must be elevated a little. Give a good dressing of well rotted manure after planting and an occasional application of salt or brine. In the Fall when the foliage turns yellow, cut it off and give a dressing of manure or good commercial fertilizer. A warm, sandy soil is the best, and one which has for some years been cultivated in garden crops and heavily manured is greatly preferred to a fresh soil. But at no period of its growth should the asparagus crop be allowed to lack for manuring. From one to two years' time can be saved by buying roots of us. See plant department. 7260 roots will plant an acre.

You  
Gain  
A Year  
by using  
Plants



## ARGENTEUIL

A popular French asparagus of great merit; larger and lighter in color and said to be superior to Palmetto; of vigorous, even growth; very early and free from disease.

Pkt 5c, oz 10c, ¼ lb 30c, 1b \$1.00

## CONOVER'S COLOSSAL

A rapid grower producing large uniform stalks of finest quality. This is the famous "Bouldin Island" Asparagus, a superior canning variety, color light green.

Pkt 5c, oz 10c, ¼ lb 30c, 1b \$1.00



## PALMETTO

The favorite green asparagus. Extra early and the uniformly large stalks remain tender longer than other varieties, being in prime condition for some days after coming above the ground. Palmetto is disease resistant, and a heavy, sure cropper.

Pkt 5c, oz 10c, ¼ lb 30c, 1b \$1.00

## Asparagus Plants

### Three Best Varieties as Above

**ONE-YEAR-OLD PLANTS**—Postpaid, 30c dozen, 75c per 50, \$1.15 per 100. By express or freight, 25c dozen, 60c per 50, \$1.00 per 100, \$8.00 per 1,000.

**TWO-YEAR-OLD PLANTS**—Postpaid, 40c per dozen, \$1.00 per 50, \$1.50 per 100. By express or freight, 30c per dozen, 75c per 50, \$1.25 per 100, \$10.00 per 1,000.

**DIAMOND FRUIT FERTILIZER FOR ASPARAGUS** Ask for Our Free Booklet "Fertilizers"

## Artichoke Large Green Globe

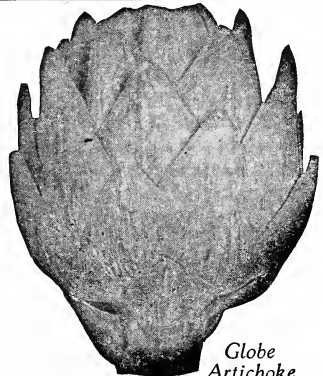
The variety used as a table vegetable. The edible portion is the thick end of leaf of the flower head. Sow early in drills and when about ten inches high transplant into rows four feet apart each way. It will produce only a small crop the first year, but will continue in good bearing five years. Cut before the bud opens. The seedlings are variable and for market gardening they are generally propagated from cuttings.

The buds when in blossom resemble huge thistles and the foliage being highly ornamental, this variety is much used for hedges and display in parkings.

Pkt 5c, oz \$1.00

## Artichoke Jerusalem—White

Distinct from the Globe, belongs to the Sun-flower family. Produces tubers like potato; grown in the same way. A fine vegetable for table and also valuable as hog feed. Price and description under Field Seeds.



Globe  
Artichoke

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## BEANS

For single pounds by mail add 10c postage.  
Larger lots at parcel post rates.

### Wax or Yellow Podded Kinds DWARF OR BUSH VARIETIES



#### PENCIL POD BLACK WAX

"Pencil Pod" is the most satisfactory of the early dwarf Wax Beans.

Of dwarf, bushy growth, about fifteen inches high, large, luxuriant foliage, beneath which in great clusters will be found an enormous crop of beautiful straight yellow pods six to seven inches long, well rounded, deeply "saddle backed," meaty and solid clear through; they are brittle, of rich mild flavor, and **entirely stringless**. An early sure cropper; of the finest quality. **Pkt 15c, 1b 35c, 10 lbs \$3.00**

#### GOLDEN WAX

Very hardy and productive. A good second early variety of fine quality, but should be picked young to avoid strings. **Pkt 15c, 1b 30c, 10 lbs \$2.50**

#### DAVIS WAX

Rustless and immensely productive, very hardy and one of the best for market gardeners. The dried bean is kidney-shaped, clear white, and a favorite for baking and canning. **Pkt 15c, 1b 30c, 10 lbs \$2.50**

#### WARDWELL'S KIDNEY WAX

Vines are of medium size, with long, flat pods of a delicate, waxy yellow, very brittle and entirely stringless when young. A favorite main crop variety with market men. **Pkt 15c, 1b 30c, 10 lbs \$2.50**



#### IMPROVED BLACK WAX

The standard early market variety, a sure cropper of good quality. **Pkt 15c, 1b 30c, 10 lbs \$2.50**

### Mulford Cultures

FOR BEANS—increases the yield, enriches the soil. Garden size, 50c; acre, \$1.50.

**CULTURE**—The soil best adapted for growing beans is a light, rich, well-drained loam, which was well manured for the previous crop. If the ground is too freshly manured the plants are apt to run to vines and set few blossoms. Plant in drills about two inches deep and from eighteen inches to two feet apart, as soon as the ground is dry enough and warm—about May 1st, or later, and for succession up to July 15th. Beans are very sensitive to cold and wet before they have sprouted, but are not so liable to be damaged after they are above ground.

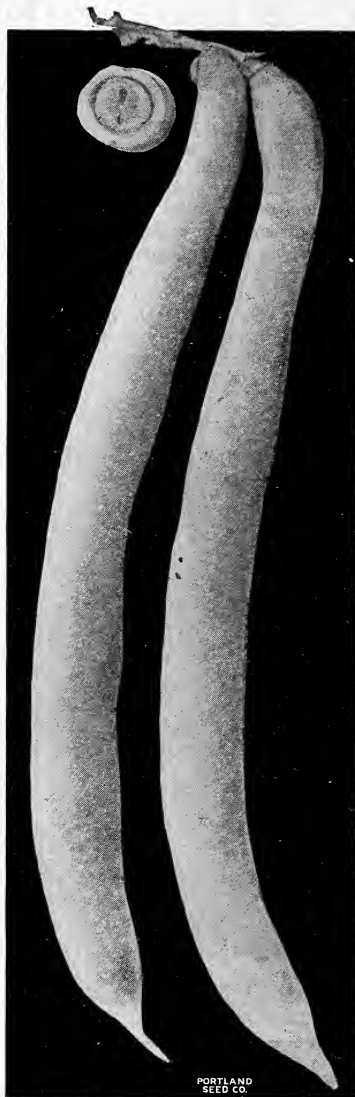
Plant about 1 lb. of Dwarf or Bush Beans to 100 ft. of drill, 1 bushel per acre. Pole Beans—1 lb. to 100 hills, requiring about 1/2 bushel per acre. When planted in hills, 2 1/2 to 3 ft. apart, small varieties such as "Navy" and "Lady Washington" will require from 16 to 25 lbs. per acre; larger sorts running from 25 to 30 lbs. Owing to their short season of growth, from 60 to 80 days, beans generally make a profitable crop for trucking. After harvesting the beans, always plow the vines under to fertilize the soil.

In growing Beans commercially sufficient moisture, freedom from frost from the middle of May to late September, and thorough preparation of the soil with good cultivation, are the requirements for a profitable crop. Closer planting can be practiced where there is plenty of moisture and under dry conditions as too much moisture will not allow the crop to mature properly and close planting will often hasten maturity by absorbing the moisture, growing conditions being favorable.

**Anthraxnose** produces large, scabby, dead spots on the pods and the controlling measures are the selection of clean seed and spraying the plants with Bordeaux Mixture.

**Powdery Mildew**, showing a white growth of fungus covering the surface of the leaves, especially in rainy or damp weather, should be treated with powdered sulphur.

**Cut worms and flea beetles** can generally be controlled by the use of "Corona" Arsenate of Lead either sprayed or dusted on the foliage. Ask for booklet "Garden Pests and their Control." **See Sprays.**





## BEANS—Continued

**O**WING to our mild Winters and cool Summers, locally grown acclimated seed from properly selected strains will be found to give best satisfaction in the Pacific Northwest. We are constantly testing and selecting the most dependable and profitable sorts and increasing our facilities and connections for local production, and when we offer a variety as being suited to your requirements and location you can accept it without fear of disappointment.

### Dwarf or Bush—Green Podded Kind



*Stringless  
Green  
Pod*



### STRINGLESS GREEN POD Extra Early

The finely shaped, long green pods are absolutely stringless, and are ready to market two weeks earlier than any other green-podded bean. It is of immense value, not only to the market gardener, but also for those who seek early beans of a rare quality for the home table. A splendid dried brown bean. **Pkt 15c, 1b 30c, 10 lbs. \$2.50**

### CANADIAN WONDER

This splendid bush bean is the largest, most prolific of the green-podded sorts, and is entirely stringless in its early development. Comes a little later than the New Stringless Green Pod, but continues in bearing throughout the season, and is excellent shelled green.

**Pkt 15c, 1b 30c, 10 lbs \$2.50**

### REFUGEE, OR THOUSAND TO ONE

Of great value on account of its hardness, vigorous growth and wonderful productiveness. Is not excelled by any other variety as a snap bean, and is considered the best for pickling or canning. Beans small, dark purple, veined brown. Pods of perfect form, dark green, veined purple.

**Pkt 15c, 1b 30c, 10 lbs \$2.50**

### DWARF HORTICULTURAL or "Cranberry Bean"

Grows erect, strong and shrubby, and is very prolific. The bean is highly prized, green shelled. It is rather large, plump and beautifully mottled yellow and red; one of the most delicious and desirable beans and a great favorite with market gardeners. The dwarf type of the old favorite London Horticultural Pole Bean.

**Pkt 15c, 1b 30c, 10 lbs \$2.50**

### LADY WASHINGTON

Sturdy, bushy plant, erect habit, and is a great improvement over the old "Navy," being much earlier, a little larger, and a very heavy yielder; being especially adapted to our Western soils, and is entirely free from disease. Bush attains a height of about fourteen inches, and beans mature in September. **Pkt 15c, 1b 20c, 10 lbs \$1.60**

### BROAD WINDSOR

#### "Horse Beans"

Stalk erect, strong and shrubby. The bean is large, broad and flat; should be planted early and is best green shelled. A European variety, very hardy and can be planted earlier than other sorts. Grown extensively for stock in some sections. **Pkt 15c, 1b 20c, 10 lbs \$1.60**

### CASTOR BEAN

(For Ornamental Varieties see Flower Seed)

Used for medicinal purposes and by some claimed to keep moles away. Castor beans are very ornamental, the plants and foliage being large and tropical in appearance. **Pkt 15c, 1b 35c**



### EXTRA EARLY RED VALENTINE

This improved strain has a healthy, vigorous growth. The beans are small, but the pods are thick, round and fleshy; very tender, rich and quite stringless. A popular bean for canning green. Bush grows to a height of fifteen inches and is very prolific.

**Pkt 15c, 1b 30c, 10 lbs \$2.50**

### TREE BEAN

Of sturdy branching habit bearing heavily and ripening early and evenly. The foliage is scant and usually falls before the pods fully mature. The distinctive pure white, rounded form and smaller size distinguishes this bean from other small white varieties and we consider it the most desirable for Northwestern growers. The cooking and table qualities are unsurpassed.

**Pkt 15c, 1b 20, 10 lbs \$1.75**

### ROYAL WHITE KIDNEY

One of the most prolific and hardy green podded bush beans. Of excellent quality as a green bean and later as a shell bean. The large white beans are also superior as a dried bean for baking. **Pkt 15c, 1b 20c, 10 lbs \$1.75**

**Mulford Cultures For Beans**

increases the yield, enriches the soil. Garden size 50c, acre \$1.50, 5 acres \$5.00, postpaid.



## CLIMBING OR POLE BEANS

For single pounds by mail add 10c postage  
Larger lots at parcel post rates

**CULTURE**—Do not plant until the soil has become warm and the weather settled—and always remember beans should have rich, well drained soil. It is best to set the poles before planting; these should be six to eight feet high, rows about four feet each way. Plant four to six beans to the hill and thin to two or three, depending on the variety. If trellis is used, sow in hills about one to two feet apart in the row. A pound should plant 75 to 100 hills. A top dressing of commercial fertilizer or old manure should be worked in when cultivating.

### OREGON GIANT (Dickenson's Yount)

The large fleshy pods 10 to 12 inches in length are free from all stringiness and are tender, crisp and delicious. The size, splendid quality and rich flavor make this one of the most desirable beans for home gardens and for canning.

"Oregon Giant" is a strong grower and yields heavily, bearing its enormous pods in great clusters. The color is a light greenish yellow, splashed red.

"Oregon Giant" as a salad bean served whole with dressing is a rare delicacy equal to the finest Asparagus. The origin of this bean is unknown but it has been planted in home gardens in Oregon for many years and the fortunate few who have obtained seed consider it the best bean for table or canning green.

Pkt 20c, 1b 50c, 10 lbs \$4.00

### ASPARAGUS BEAN

The True Asparagus Bean is superior to Kentucky Wonder in quality and fully equal in productiveness. The long, slender pods are very fleshy, almost round, crisp, tender and delicious, of a beautiful pale green color, attractive form and absolutely stringless. They grow vigorously and bear heavily.

Pkt 15c, 1b 30c, 10 lbs \$2.50

### KENTUCKY WONDER

A vigorous climber; very prolific, bearing in clusters extremely long and very fleshy, succulent pods; flat, thick and remarkably tender. A first-class pole variety. Pkt 15c, 1b 30c, 10 lbs \$2.50

### OREGON POLE LIMA

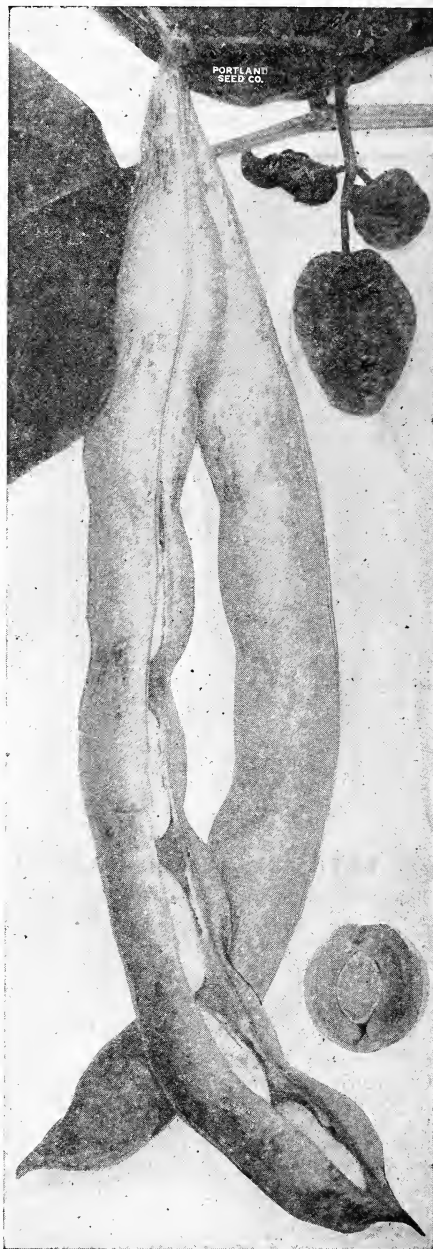
The only Lima Bean that will thrive in our cool climate

Oregon Pole Lima grows a strong, thrifty vine and is very prolific, bearing continuously until frost, the blossoms bursting from the top shoots in long panicles, while the pods can be seen in every stage of development, to the matured beans at the bottom of the vine. Pods are well filled, having three to five large beans of the finest quality.

Oregon Pole Lima can be planted in any garden soil as early as April or late as July. Give the same care and culture as other Beans, and they are ready to use when the pods are filled and first begin to ripen. They are at their best when the full green pods begin to turn yellow.

Try "Oregon Pole Lima." It is a wonder, sure to grow, and will produce more fine beans of delicious table quality than any variety we know of.

Pkt 25c, 1b 40c, 10 lbs \$3.50



### LAZY WIFE

Pods are from four to five inches in length, produced in large clusters in great abundance. Dark green, thick, fleshy and stringless; of unusually rich flavor. Dry beans, pure white; excellent for winter use. Pkt 15c, 1b 30c, 10 lbs \$2.50

### SCARLET RUNNER

A favorite as a shell bean and for its flowers, which are bright scarlet; seeds broad and kidney shaped. Pkt 15c, 1b 30c, 10 lbs \$2.50



## BEETS

**CULTURE**—*The Beet is hardy and may be planted as soon as the ground can be well prepared, doing best in rich, sandy soil, sown in rows sixteen inches apart, covered one and one-half inches deep. The seed will sprout better if soaked twenty-four hours in warm water before planting. Thin out by using the largest ones when they are of sufficient size, continuing until they are six or eight inches apart in the rows. For field crop, the rows should be far enough apart to permit the use of a horse cultivator.*



### P. S. CO.'S MARKET GARDENER

This new, extra early Beet is remarkable for its fine quality and rapid growth; it is of deep red color and handsome shape; as an early market sort it is unrivaled. It is to a large extent superseding the Egyptian, being earlier in development, more attractive in appearance and of superior quality for the table, holding its color and cooking quickly. Market gardeners prefer it as it matures evenly, stands a long time and does not split.

Pkt 10c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.50

### DETROIT DARK RED TURNIP

A fine Beet for bunching for market; tops exceptionally small and uniformly upright. The roots are perfect turnip shape with small tap-roots. One of the deepest red beets. Quality is of the finest; sweet and tender, one of the best beets for home gardens.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25

### EARLY ECLIPSE

One of the best early sorts. It possesses all the qualities requisite in a first class beet, and is of a uniform, globular shape. The roots are a bright, glossy red, fine-grained and delicious.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25

### HALF LONG BLOOD

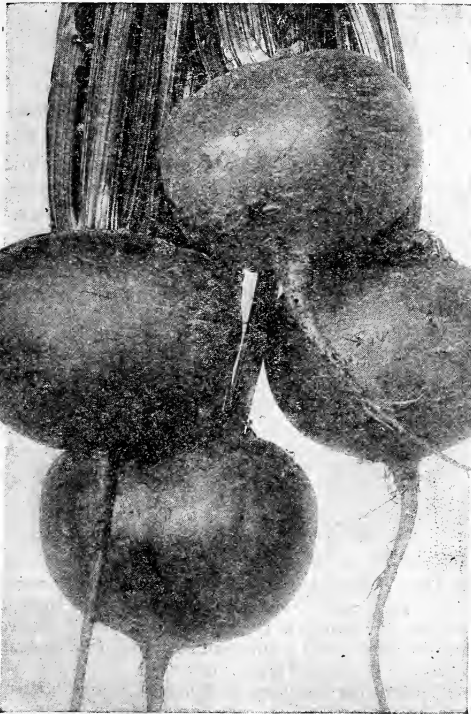
A new variety of excellent quality. One of the very best for Winter use; does not become woody and keeps as well as the long Dark Blood. The root is smooth and handsome, and the flesh is brilliant in color and as good in quality as the best Blood Turnip varieties. Give it a trial.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25

### EARLY BLOOD TURNIP—IMPROVED

An extra selected stock of blood turnip having larger, coarser tops and roots than the Detroit Dark Red, and requiring a longer time to mature. Excellent for Summer and Autumn use.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25



*P. S. Co.'s Market Gardener*



### EXTRA EARLY EGYPTIAN

The best variety for forcing, and for market gardeners, being very early with small tops. Roots very dark red, rounded on top, but flat beneath, with very small tap roots.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25

### LONG SMOOTH DARK BLOOD

The leading late variety, keeping well all Winter. Should be planted in rich, warm soil to secure rapid growth, which makes them tender. Top small, root long and smooth. Flesh deep purple, fine and sweet.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25

### SUGAR BEET

**KLEIN WANZLEBEN**—This is the standard variety grown commercially for the production of sugar.

Pkt 10c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.25, 10 lbs \$10.00.

## Commercial FERTILIZERS Profitable

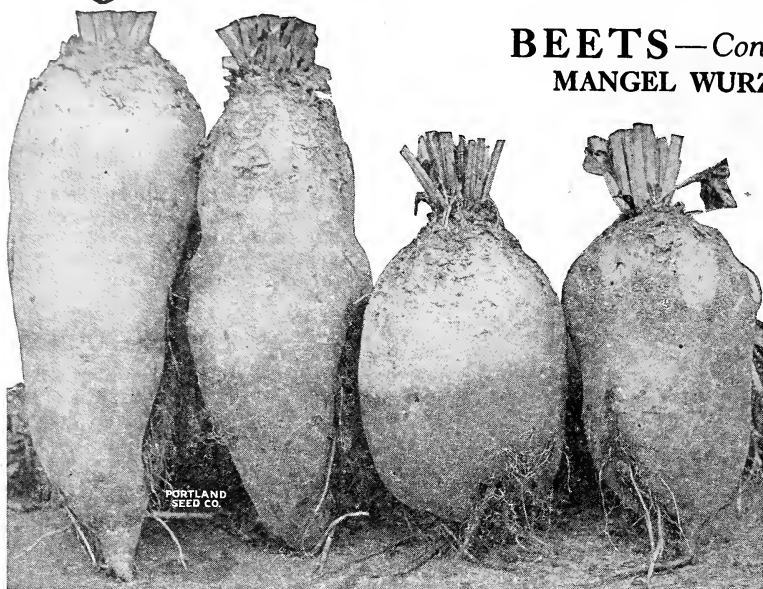
*A 100-lb. Bag of High Grade Commercial Fertilizer will contain more soluble and available plant food than 4,000 pounds (two tons) of stable manure of average quality. How much easier and cleaner to handle one 100-pound bag than 2 tons of manure, and there are no weed seeds to worry over. Our Free Booklet, FERTILIZERS, tells what fertilizers are best and how to use them profitably.*

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## BEETS—Continued

### MANGEL WURZEL



Yellow Giant

Sludstrup

Golden Tankard

Eckendorf

These are grown extensively for stock feeding, and afford large quantities of fresh, nutritious and wholesome food during the Winter months, in connection with grain and dried forage. Sugar Beets are richer and sweeter than Mangels, but do not produce as heavily.

**CULTURE OF MANGEL AND SUGAR BEETS**—Thoroughly fine soil as good roots cannot be grown in lumpy, poorly prepared ground. The largest crops come from a soil ranging from light to a friable clay loam that has received from eight to fifteen loads of manure to the acre. This can be plowed in or half broadcast and half used in the furrows; a deep plowing in of fresh manure in the Fall is best. It is also necessary to add some commercial fertilizer, but any good soil will grow a fair crop.

Use 6 to 10 pounds of seed to the acre, depending on whether machine or hand planting is used, planting liberally so that in thinning an even stand can be secured. The rows can be 18 to 30 inches apart, depending upon soil and method of culture. Level culture is best. If planted during dry weather, be sure the seed is in from one and one-half inches as it requires lots of moisture to burst the hard shell.

A poor stand and weak germination is often due to improper planting and lack of moisture. Transplanting can be successfully done to fill vacancies. Do this before a shower, and early, breaking off the tops of the larger leaves.

#### P. S. CO.'S HEAVIEST CROPPER

This is a wonderful improvement on existing stocks of Yellow Mangels, being one of the heaviest croppers and easiest pulled, of very fine quality. The small foliage permits it to be left comparatively thick in the rows and weight per acre is therefore enormous. It is considered distinct over all other kinds and one of the largest and best Yellow Mangels.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 90c, 10 lbs not postpaid \$7.50

#### YELLOW GIANT, INTERMEDIATE or Gate Post

Roots very large, growing over one-half out of the ground; flesh white, sweet and tender; tops bright green, comparatively small; neck small, short. Its fine flesh never becomes woody and the crop is easily harvested.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 80c, 10 lbs not postpaid \$7.00.

#### GIANT RED ECKENDORF

Is of straight, cylindrical form, very blunt, and grows mostly above the surface. Awarded a first-class certificate as a very heavy cropper.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb 90c, 10 lbs not postpaid \$8.00.

#### MAMMOTH LONG RED

An improvement on the Long Red, with ordinary cultivation. If you want a large crop of large Mangels of good quality, don't fail to try this sort. Very uniform, smooth and of good shape. Should be grown in deep loose soil.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 80c, 10 lbs not postpaid \$7.00.

#### NEW MANGEL HALF SUGAR

A new variety, more valuable for feeding purposes than the old sorts, yields as much per acre as the best Mangels, and twice as much per acre (bulk of roots) as the rich sugar beets. Roots large, very smooth, with few rootlets; creamy white in color, with medium sized tops.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 80c, 10 lbs not postpaid \$7.00.

#### GOLDEN TANKARD

Dairy farmers state they are able to obtain a higher price for milk when feeding cows on "Golden Tankard." Sheep thrive on it. "Golden Tankard" is a rich, deep yellow throughout. Early, hardy and a heavy cropper.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb 90c, 10 lbs not postpaid \$8.00.

#### DANISH SLUDSTRUP

Long, reddish-yellow, grows well above the ground, and is easy to pull. Has repeatedly been awarded a first class certificate by the Danish Government.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 80c, 10 lbs not postpaid \$7.00.

## SWISS CHARD

**New Savoyed Leaf "LUCULLUS."** An improved variety of "Swiss Chard," growing about two and a half feet high. The heavy stalks are over an inch thick and bare for more than a foot of their length. The leaves make the finest of "greens." By cutting back the leaves close to the ground tender shoots spring up quickly, these or the mid-rib are very delicious cooked as asparagus. Swiss chard is hardy, easily grown and should be in every garden. It is one of the most delicious of all vegetables.

Pkt 10c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00

## BRUSSELS SPROUTS

The plants, which are very hardy, grow two or three feet high, and produce, from the sides of the stalks, numerous little sprouts, which resemble very small cabbages one or two inches in diameter. The leaves should be broken down in the Fall, to give the little heads more room to grow. They should be treated in all respects like Winter Cabbage or Kale.



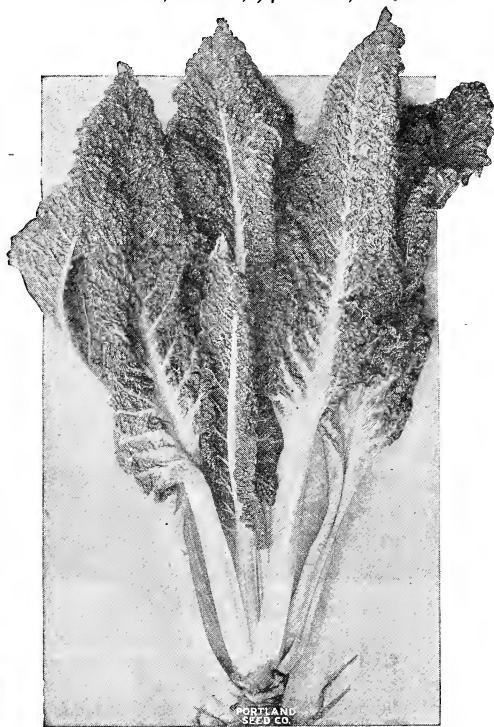
Odense  
Market

### DWARF IMPROVED

A carefully grown strain, very hardy and giving compact, round sprouts of large size and good quality.

Pkt 10c, oz 30c,  $\frac{1}{4}$  lb 90c.

"Cabbages, Cauliflower, Broccoli,"  
by Gregory. Price  
per copy, 45c



Swiss Chard "Lucullus"

## BROCCOLI or Winter Cauliflower

Broccoli is so nearly related to late Cauliflower that the varieties are often listed under both heads—the principal difference being in the hardiness and time of maturity, Broccoli not heading until late Winter or early Spring. Culture is same as for late Cauliflower, and good, rich, well-drained bottom land is best, but well-tilled, well-fertilized upland will produce a good crop.

✎ The St. Valentine Broccoli, which we introduced some years ago, is the variety extensively grown by commercial planters—many carloads being shipped from Oregon each season.

### ST. VALENTINE—The Finest of All Broccoli

This grand new strain introduced by us is a sure header of immense size, finest quality, and is ready for market in February. The large, solid, handsome, white heads remain in good condition longer than other varieties.

Pkt 15c,  $\frac{1}{4}$  oz 50c, oz \$1.25,  $\frac{1}{4}$  lb \$4.00, lb \$14.00.

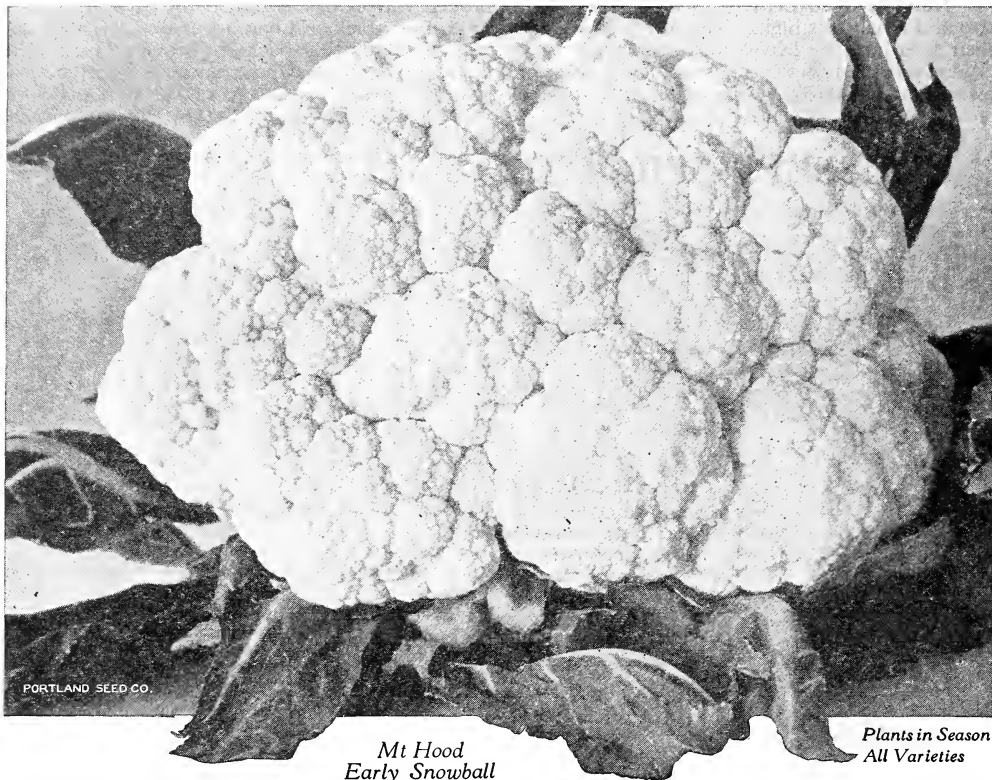
## Vegetable Plants

Thrifty, well grown, true to name standard varieties in any quantity for seasonable delivery. See Plant Department

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



# CAULIFLOWER



*Mt Hood  
Early Snowball*

*Plants in Season  
All Varieties*

**CULTURE**—The Cauliflower succeeds well in any soil where cabbage will grow but best results are obtained in rich loam with an abundance of water. By sowing early varieties in a hot bed in February or March, or later in a cold frame, fine heads can be obtained quite early. For a later supply, sow seed in a prepared bed in May, choosing a cool, moist place. When large enough transplant, making the rows about two and a half feet apart and eighteen inches between the plants. In dry seasons the crop must be watered.



## P. S. CO.'S "MT. HOOD" EARLY SNOWBALL

The seed that produces those handsome large white solid heads that bring big profits to the gardener. We offer our "Mt. Hood" Cauliflower seed in sealed packets only, under our own label, it having been carefully selected and grown for us by one of the very few expert Cauliflower growers, and is the best strain of "Early Snowball" obtainable. We especially recommend "Mt. Hood" Snowball for either early or late planting.

Pkt 25c,  $\frac{1}{4}$  oz \$1.50, oz \$5.00,  $\frac{1}{4}$  lb \$16.00



## EARLY SNOWBALL

Ordinary strain. This is the regular grade of "Early Snowball" that is generally offered, and while it will not give as good results as "Mt. Hood," can be depended upon to produce a good crop. Pkt 15c,  $\frac{1}{4}$  oz \$1.00, oz \$3.00,  $\frac{1}{4}$  lb \$10

## AUTUMN GIANT

The heads are white, large, compact and thoroughly protected by foliage.

Pkt 10c,  $\frac{1}{4}$  oz 40c, oz \$1.50,  $\frac{1}{4}$  lb \$5.00

## DANISH GIANT—DRY WEATHER CAULIFLOWER

"Danish Giant" is an early, large, solid white Cauliflower that can successfully withstand a drouth that would prove fatal to other varieties and will thrive splendidly in dry sections, being peculiarly adapted to their growing conditions, but like all cauliflower must have rich soil and cultivation to give best results. "Danish Giant" can also be grown under moist conditions and is a dependable market variety. If your location is subject to drouth or you are "dry farming," be sure to plant "Danish Giant."

Pkt 25c,  $\frac{1}{4}$  oz \$1.15, oz \$4.25,  $\frac{1}{4}$  lb \$14.00

## LARGE ALGIERS

A valuable late sort, sure to head, of the best quality and very popular with market gardeners everywhere. Plants large, but of upright growth, the leaves protecting the heads so that they will endure, uninjured, a frost that would ruin other sorts. One of the very best of the late varieties.

Pkt 10c,  $\frac{1}{4}$  oz 60c, oz \$2.00,  $\frac{1}{4}$  lb \$6.00

**Don't Buy** cheap strains of Cauliflower Seed. Only the best select strains can be depended upon to produce a big percentage of large, white, solid heads

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## Plants in Season


# CABBAGE

**CULTURE**—The requisites for complete success are:  
*First*—Good seed. There is no other vegetable where the

seed has so much influence on the quality of the product, and gardeners should always use the best procurable. *Second*—Rich, well prepared ground. *Third*—Frequent and thorough cultivation. A heavy, moist and rich loam is most suitable, which should be highly manured and worked deeply. Cabbage is universally

grown and specific directions regarding the time and method of planting applicable to all localities cannot be given. In general, the early sorts should be sown very early in hot beds, hardened off by gradually exposing to outside air, and as early as the ground is in good condition, transplanted, setting 18 to 36 inches apart, according to size of variety. The late Autumn and

Winter varieties may be sown from the middle to the last of Spring and transplanted when four to six inches high. Shade and water the late sowings in dry weather to get them up.

 It is important that the plants should not be crowded in the seed bed, or they will run up weak and slender and produce many long stems



### EARLY JERSEY WAKEFIELD

The favorite Early Cabbage with our market gardeners. A sure header. The thick, stout leaves and compact habit make it the best for Wintering over and very early setting.

Grown more extensively for market than any other early cabbage. Is always of good size, very solid, and has but few outside leaves; a reliable header and always gives good satisfaction.

Pkt 5c, oz 35c,  $\frac{1}{4}$  lb \$1.25, lb \$4.00

### EARLY DWARF FLAT DUTCH

Grows low on the stem; a sure header; firm fine grained, tender and excellent.

Pkt 5c, oz 35c,  $\frac{1}{4}$  lb \$1.25, lb \$4.00

### SUCCESSION

Heads large, slightly flattened; grows low on the stem.

Pkt 5c, oz 35c,  $\frac{1}{4}$  lb \$1.25, lb \$4.00

## Fertilize

your Cabbage with

## Diamond Onion Fertilizer

1000 lbs. per acre

Promotes a quick, even growth, developing crisp, solid heads that command highest prices. Ask for our Booklet "FERTILIZERS."



### COPENHAGEN MARKET

#### A Splendid Cabbage for Home Gardens

A splendid early globe-shaped Cabbage slightly flattened. The large solid heads are very uniform, with few outer leaves, keeps well and stands handling. **Copenhagen Market** originated in Denmark, where it is the favorite market variety, and we recommend it to our customers as the best early round head.

Pkt 10c, oz 50c,  $\frac{1}{4}$  lb \$1.50, lb \$5.50



Copenhagen





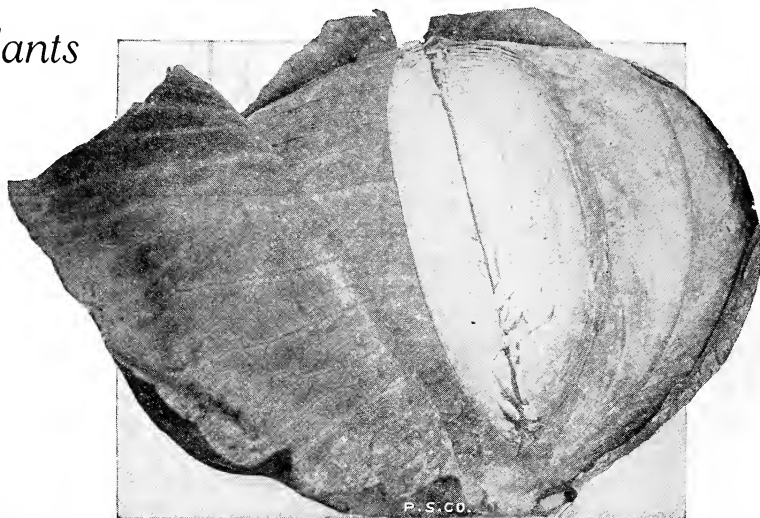
## CABBAGE—Continued.

### Cabbage Plants

Well grown  
stocky plants  
properly  
hardened off—  
all standard  
sorts in season

Prompt  
deliveries at  
right prices

See Plant  
Department



#### DANISH BALLHEAD Select Short-Stem

Our strain of short stem Ballhead is imported direct from Denmark, originating on the famous island of Amager, the vegetable garden of Copenhagen.

The fine ribbed leaves are so densely packed together that no space is left for water or air to start decay and the firm solid heads are famed for their superior excellence and keeping qualities. Matures late and when cut shows a fine, hard, snowy white, solid head. The best in its class. Pkt 10c, oz 40c,  $\frac{1}{4}$  lb \$1.35, 1b \$4.50

*P. S. Co.'s Select Short Stemmed Ball Head*

#### DANISH ROUND HEAD Select Short Stem

A round ball shaped cabbage of great solidity. Color, rich dark green, has few outer leaves, is very hardy and a profitable late market variety. Our stock of Round Head is Danish grown and of the same superior quality as the short-stem Ballhead, being one of the latest keepers and best varieties for early Spring market. Pkt 10c, oz 40c,  $\frac{1}{4}$  lb \$1.35, 1b \$4.50

#### RED CABBAGE—Odense Market

Used for pickling. The heads are very fine and remarkably sure heading. We believe this to be the best red cabbage.

Pkt 5c, oz 40c,  $\frac{1}{4}$  lb \$1.35, 1b \$4.50

#### SAVOY CABBAGE

##### Vertus—Late Savoy

Large, compact heads; crisp and tender with a rich flavor. Desirable for cooking or salads.

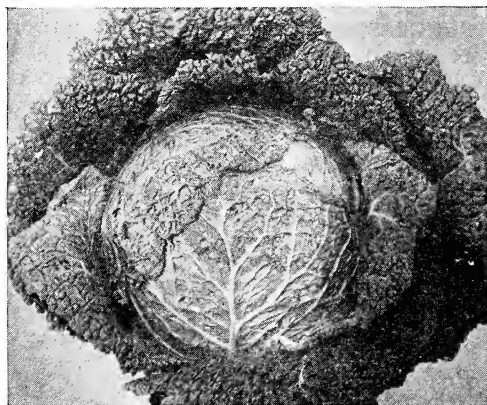
Pkt 5c, oz 40c,  $\frac{1}{4}$  lb \$1.25, 1b \$4.25



*Late Flat Dutch*

#### PREMIUM LATE FLAT DUTCH

This improved strain possesses all the good qualities of the old favorite, "Late Flat Dutch," one of the largest of the late varieties and is a sure header. Pkt 5c, oz 35c,  $\frac{1}{4}$  lb \$1.25, 1b \$4.00



*Vertus—Late Savoy.*

# CARROTS

**C**ARROTS, aside from being one of our most useful and easily grown garden vegetables, are invaluable for stock feeding. They are greatly relished, promote health and put a sleek coat on cattle and horses, giving a well-kept appearance. Dairy and stockmen should grow them extensively. For their special use we recommend our "Yellow Giant."

**CULTURE**—A sandy loam is the best soil for the carrot, but any good land, if thoroughly and deeply worked, will produce satisfactory crops. Sow as early in the Spring as the ground is fit to work, though good crops may be grown from sowing as late as June 15. For table use, sow the smaller kinds in rows 16 to 18 inches apart, and for field culture prepare the ground thoroughly and sow in drills 18 to 24 inches apart. Cover one-half to one inch deep and see to it that the soil is well firmed above the seed.



## P. S. CO.'S NEW CORELESS

A splendid new carrot. Larger than other early varieties. Crisp, solid, of fine flavor and entirely coreless, grows smooth and uniform, a true stump rooted type. The very best for canning or drying as it is coreless and has no tap root to trim off and waste. Holds its color and cooks quickly. The ideal carrot for home gardens.

Pkt 10c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00



## EARLY SCARLET HORN

The best early kind for general use. It is larger than the forcing variety, but fully as good in quality, and produces a much larger crop.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.00



## CHANTENAY

### The Market Gardener's Favorite

Tops, medium sized; necks, small; roots, tapering slightly, but uniformly stump-rooted and smooth; color, deep orange red; flesh, very crisp and tender. Although this is a medium early sort, it furnishes roots of usable size as early as any; is a heavy cropper, and is undoubtedly one of the best for both the market and private garden, while its great productiveness makes it very desirable as a field, sort.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.00

## OXHEART

A thick carrot, five or six inches long and very blunt at the lower extremity. It grows very rapidly and the root attains a weight of more than a pound. It is tender and of good flavor.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.00

## DANVER'S HALF LONG

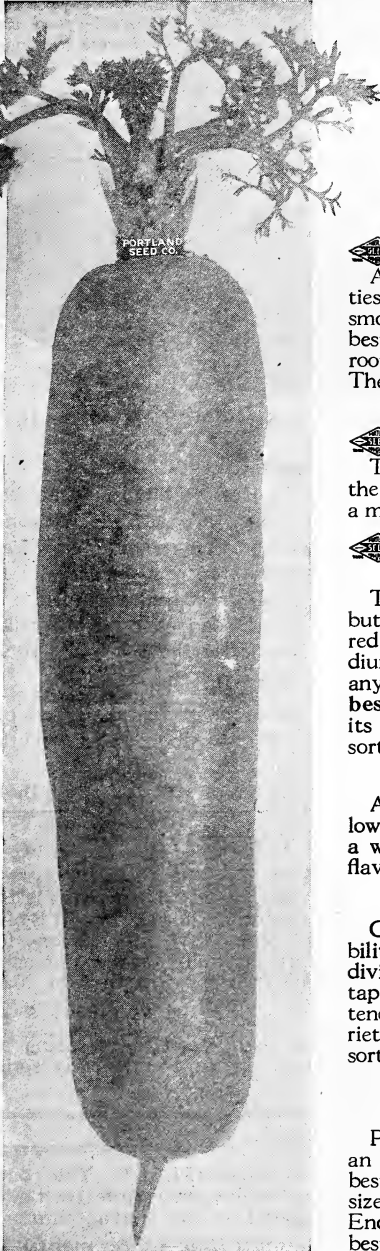
Grown largely on account of its productiveness and adaptability to all classes of soil. Tops, medium sized, coarsely divided. The smooth, handsome roots are of medium length, tapering uniformly to a blunt point; flesh, sweet, crisp, tender; deep orange in color. Although the roots of this variety are short, they produce as large bulk as the longer field sorts, and are more easily harvested.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.00

## P. S. CO.'S IMPROVED LONG ORANGE

Popular for farm use on deep, mellow soil. Our stock is an improvement obtained by years of careful selection of the best formed and deepest colored roots, which grow to a large size, some specimens averaging twelve inches in length. Enormous crops can be grown under fair culture; one of the best varieties for feeding stock.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.00



P. S. Co's New Coreless

## USE DIAMOND VEGETABLE FERTILIZER FOR CARROTS

Our Book "FERTILIZERS" tells how to profitably use Fertilizer. Tells what you should get for your money when you buy Fertilizers—a book every grower should have and is FREE FOR THE ASKING

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS. PAGE TWO OF CATALOG



## CARROTS—Continued

### Good and Productive Stock Carrots

Carrots are a sure and profitable crop for dairy and stockmen—and "Yellow Giant" is the most profitable, heaviest yielding variety—Try it.



**"Kow Kure"**  
Makes poor cows good—good cows better. See index

#### P. S. CO.'S YELLOW GIANT

**Specially Adapted to Moist, Heavy Soils**

This new Carrot originated at the Sydney, Australia, Experimental Station, and has proved itself to be the **earliest and most productive stock carrot offered to date**. It is a half long variety, with an **immense broad shoulder**. The Carrot penetrates less than one-half the depth into the ground, which saves about one-half the expense of harvesting the crop. The color is of bright yellow, and is **perfection itself** for giving the proper color to butter. Every dairyman who wants a big crop of carrots of the right quality and easy of culture should plant our Yellow Giant.

**Pkt 5c, oz 15c, ¼ lb 35c, 1b \$1.00**

#### IMPROVED SHORT WHITE—"MASON-TODON"

**Of Excellent Table Quality**

Ranks as a field carrot, owing to its enormous productiveness and the ease with which it can be harvested. Roots half long, smooth, very heavy at the shoulder, but tapering regularly at the point; color, light green at the crown, white below; flesh, rich, white, solid, crisp and of excellent flavor.

**Pkt 5c, oz 15c, ¼ lb 30c, 1b 90c**

#### LARGE WHITE BELGIAN

Extensively grown for stock feeding; very productive. Grows so much above the ground that the entire crop can be pulled by hand.

**Pkt 5c, oz 15c, ¼ lb 30c, 1b 90c**

#### CRESS

**Curled, or Pepper Grass**

This salad is much used with lettuce, to which its warm, pungent taste makes an agreeable addition. The seed should be sown in drills about 16 inches apart, on very rich ground, and the plants well cultivated. It may be planted very early.

**Pkt 5c, oz 15c, ¼ lb 35c, 1b \$1.00**

#### CORN SALAD

**Fetticus, or Lamb's Lettuce**

A refreshing salad, used extensively in Winter and Spring as a substitute for lettuce. It is often cooked like spinach. Sown in drills one foot apart, in the Spring or Fall. On the approach of cold weather cover over with straw or coarse litter.

**Pkt 5c, oz 25c, ¼ lb. 75c**

**CHIVES**—Chives belong to the onion family and the tops are used green for flavoring and garnishing. They grow in little clumps and can be supplied as plants any time in the early spring. See Plant Department.

### If You Milk Two Cows

If you MILK 2 or MORE COWS YOU SHOULD HAVE A "SHARPLES." You pour the milk into the low supply tank and turn the handle—when the milk is drawn into the bowl it is **separated perfectly at any speed**—you know what that means if you ever used a separator.

*The New Sharples Suction Feed Separator saves work—saves time—saves money—we can prove this to your satisfaction.*

*We are factory agents for Sharples Cream Separators and Milking Machines—full information on request.*



# CELERY

**CULTURE**—Sow the seeds early, about February, in a hot-bed or cold frame. When three inches high transplant, setting them four inches apart. When grown six inches, and fine, stocky plants, set in richly manured, deep soil, in rows three and a half feet apart and about nine inches from plant to plant. Water if dry weather follows transplanting. During the next two months all the attention that is required is to keep down the weeds. Blanch by placing boards along the rows, or earth up a little, and continue doing so at intervals until only the tops of the leaves are visible late in Autumn. **Never hoe up the earth when plants are wet.** One ounce of seed produces about six thousand plants. See footnote on growing.

## WHITE PLUME

### The Leading White Celery

A handsome, crisp sort, of very easy cultivation. Naturally its stalks and portions of its inner leaves and heart are white, so that by closing the stalks either by tying or by simply drawing soil up against the plant and pressing it together, the work of blanching is completed without the troublesome process of "banking" or "earthing up." It is the earliest celery known.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 90c, lb \$3.00

## GOLDEN YELLOW SELF-BLANCHING

This is no doubt the best celery for early Spring market use. Plants are of a yellowish green color when young, but as they mature the inner stems and leaves turn a beautiful golden yellow, which adds much to their attractiveness and makes the work of blanching much easier.

Pkt 10c, oz 45c,  $\frac{1}{4}$  lb \$1.40, lb \$5.00

## GOLDEN HEART, OR GOLDEN DWARF

Grows a compact, crisp, solid stalk of fine, nutty flavor. Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.50

## WINTER QUEEN

This is without doubt the most valuable variety of celery for Winter and Spring use ever introduced. Has double the amount of heart of any known celery. The plant has a fine appearance, of compact growth, and blanches to a beautiful cream-white. Ribs perfectly solid, crisp and a delicious nutty flavor.

Stored for Winter or Spring use, it is an excellent keeper and when taken out the blanched stalks will be firm and crisp; entirely free from strings; brittle and of sweet flavor.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 75c, lb \$2.50

## GIANT PASCAL

Largest variety grown; of fine, nutty flavor; very easily blanched.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 75c, lb \$2.50

**CELERY SEED.** For flavoring. Oz 10c,  $\frac{1}{4}$  lb 20c, lb 65c

## CELERICAC

### Turnip Rooted Celery

#### Large Smooth Prague

Improved form with very few side roots. The largest and best variety.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 75c



Celeriac  
Turnip  
Rooted  
Celery



White  
Plume

## Celery Plants

Large  
Healthy  
Transplanted  
Plants in  
Standard  
Varieties for  
Delivery in  
Season

Any Number  
at  
Right Prices

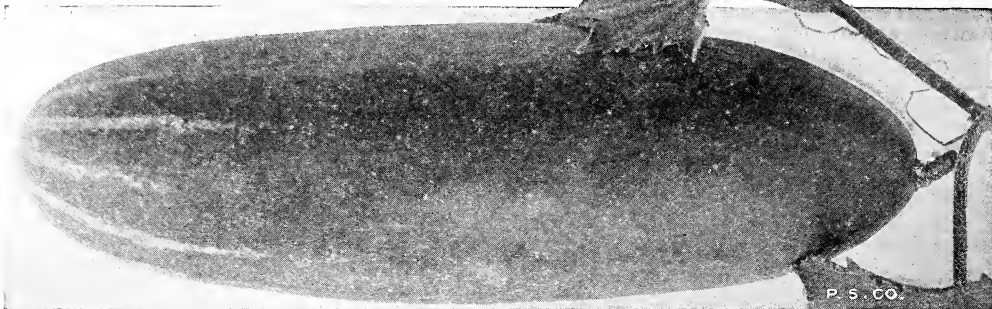
See Plant  
Department

**To Succeed with Celery** you must keep your plants growing constantly while young, if you allow them to "stand still" they will run up to seed later. Always cultivate as soon after watering as the ground is dry enough to work well. Fertilize heavily in the Spring—and use nitrate later if needed.



# CUCUMBERS

For Cucumbers  
Diamond Fertilizer  
will repay its cost many times  
over. Let us send you our  
Free Book "Fertilizers"



*Diamond Long Green*

**CULTURE**—Cucumbers need a warm, rich soil, and should not be planted in open ground until the weather is settled, as otherwise they will not thrive. Plant in hills four feet apart each way, thinning to three or four of the strongest plants, after danger from insects is passed. As fast as the cucumbers attain suitable size they should be taken from the vine, whether required for use or not, as their ripening soon destroys the vines' usefulness.

## "DIAMOND" LONG GREEN

The leading large variety. Fruit from ten to twelve inches long, dark green, crisp and tender. A good variety for slicing, and when ripe they are the best for sweet pickles. We offer our "Diamond Strain"—they will grow long and uniform in shape. Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 50c, lb \$1.75

## PEERLESS, OR EARLY WHITE SPINE

One of the best sorts for table use, fruiting early and abundantly. Fruit uniformly straight and handsome; light green, with a few white spines. Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 35c, lb \$1.25

## SHORT GREEN, OR EARLY FRAME

An excellent sort for both table use and pickling. Fruit straight, small at each end, bright green, with crisp, tender flesh. Comes into use a little later than the Early Cluster and keeps green a long time.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 35c, lb \$1.25

## LEMON CUCUMBER

This dainty little cucumber resembles a lemon both in form and color, having a distinctive flavor superior to and not found in any other cucumber. The Lemon Cucumber is so prolific that a single vine will be ample for the needs of the average family. It is also said that the Lemon Cucumber can be eaten without fear of the harmful results that some experience from eating cucumbers.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 55c, lb \$1.75

## JAPANESE CLIMBING

A useful variety for growing on a trellis or wire. The cucumbers are long, of a dark green color, white flesh, crisp, and of a good flavor.

Pkt 10c, oz 20c,  $\frac{1}{4}$  lb 50c

## BOSTON PICKLING, OR GREEN PROLIFIC

Color, bright green, and a great producer. The fruits average four to five inches in length when large enough for slicing, and are of excellent quality, but it is for producing medium sized pickles that this variety is so highly esteemed.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 35c, lb \$1.25

## TELEGRAPH—FORCING

A standard forcing variety, very popular with gardeners. Fruit fourteen to sixteen inches long, of very fine quality. A sure and heavy cropper.

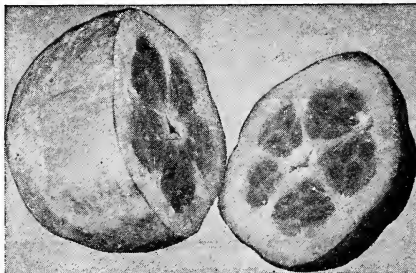
Pkt 25c

## "THE DAVIS PERFECT" CUCUMBER

The "Davis Perfect" is of perfect form, large size and of the finest color; is crisp, delicious and almost seedless. This fine variety comes from the originator of the Davis Wax Bean and is one of the most valuable varieties for home or market.

The "Davis Perfect" is as handsome, grown outside, as any hothouse cucumber.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 50c, lb \$1.75




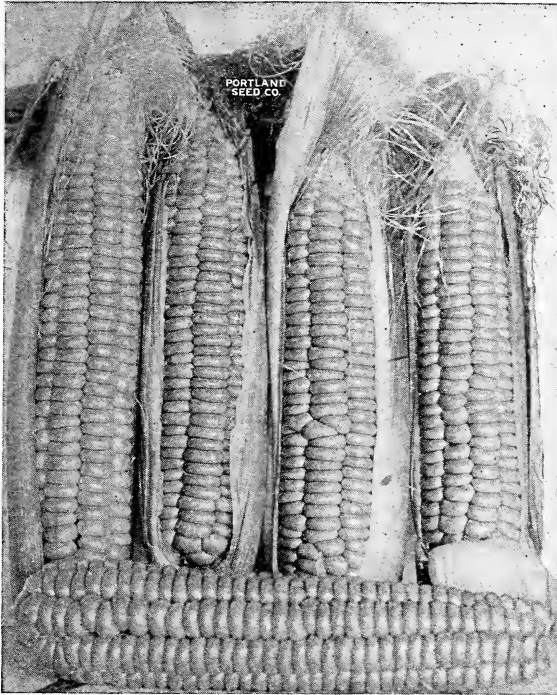
*Lemon Cucumber*

"CORONA DRY" Powdered Arsenate of Lead will protect Cucumbers and other vegetables from leaf-eating insects. Ask for a free copy of "Garden Pests and Their Control."

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

# SWEET OR SUGAR CORN

 For single pounds, by mail, add 10c postage; large lots at parcel post rates



*Golden West*

## EARLY WHITE CORY—Mammoth

The stalks are no larger than those of the "White Cob Cory," but each stalk furnishes two or more large, fine-shaped ears, which are fit for use before those of most other sorts. The ears are 12-rowed, very symmetrical and handsome. The grain is large, broad, very white and of remarkably good quality. Pkt 15c, lb 25c, 10 lbs \$2.35

## EARLY MINNESOTA

This old and deservedly popular variety is one of the best early sorts for the market and the private garden. Pkt 15c, lb 25c, 10 lbs \$2.35

## COUNTRY GENTLEMEN

The sugary sweetness and delicious flavor make this old-time favorite one of the most desirable varieties. The slender white irregular kernels are very long, the cob small, making much more to the ear than other varieties.

Pkt 15c, lb 30c, 10 lbs \$2.75

## STOWELL'S EVERGREEN

Remarkable for remaining a long time in a fresh condition suitable for the table. Hardy and productive and the best late variety for general use. Pkt 15c, lb 25c, 10 lbs \$2.35

## GOLDEN BANTAM

The original yellow sweet corn. Does not grow quite as large an ear as our "Golden West," but has most of its good qualities; early, productive, sweet and rich. Pkt 15c, lb 25c, 10 lbs \$2.35

**CULTURE**—Corn should not be planted until the ground is warm, as the seed will rot in cold, damp soil, or if planted too deep. Late April is early enough for first plantings and for succession plant every two weeks through May and June. Cover the first planting very lightly, increasing the depth a little for the later plantings. For the Dwarf Early varieties, rows should be three feet apart; for later large varieties, four feet, and the hills two to three feet in the rows.

Sweet or Sugar varieties are used both for table and stock feeding, some of the large later sorts being preferred for silos and fodder.



## GOLDEN WEST

### Oregon Grown Seed

The richest, sweetest corn ever grown—To be sure of the right strain, look for our Diamond trade mark on every package.

Our "Golden West" Corn, a selection from the original strain of Golden Bantam, produces a larger ear, has a more vigorous growth, and by continued careful selection, improves yearly. We believe it to be the richest, sweetest, best yielding early sweet corn. "Golden West" is extremely hardy, can be planted earlier than other varieties, and, being of dwarf habit, can be planted closer than other sorts. It is the very best corn for market or home gardens, where earliness and quality are considered. The color is a rich, creamy yellow, deepening to golden as it matures, and the quality is so fine that you must try it to appreciate how good corn can be.

Pkt 15c, lb 30c, 10 lbs \$2.75

## BLACK MEXICAN

An old favorite still in good demand on account of its quality and sweetness. A good variety for home gardens. Pkt 15c, lb 30c, 10 lbs \$2.75

## PORTLAND MARKET

One of the earliest large eared varieties. Large, sweet, plump grains of purest white on well filled ears; a good market variety. Ears large but stalk not considered a rank grower.

Pkt 15c, lb 25c, 10 lbs \$2.35

## OREGON EVERGREEN

We offer "Oregon Evergreen" as the finest main crop Sweet Corn. The flavor and sweetness have not been excelled and the extreme whiteness of the large ears makes it very beautiful and valuable for canning. It is large and the stalks produce more ears than any other variety and have a very heavy husk over the grains, protecting them from insects and keeping the ear fresh a long time after cutting.

"Oregon Evergreen" is a hardy, vigorous grower and is the ideal Corn for market gardeners.

Pkt 15c, lb 30c, 10 lbs \$2.75



## EGG PLANT

Should be started in a hotbed and transplanted when the weather is settled and the ground thoroughly warm. They will thrive with the same treatment as that given the tomato.



### BLACK BEAUTY

An extra early, quick-growing, vigorous variety, handsome and very uniform. Color, deep blackish purple. Splendid market sort.

**Pkt 5c, oz 50c, ¼ lb \$1.85**

### NEW YORK IMPROVED, LARGE PURPLE

The leading market variety. Large, round, dark, excellent and the most productive.

**Pkt 5c, oz 50c, ¼ lb \$1.85**



*Black Beauty*

## GARLIC

**CULTURE**—Garlic is a profitable crop if your soil is right and proper methods of culture are employed. The sets are planted in the same manner as "Multiplier Onions," dividing the little clump, planting each bulblet thick end down, being careful not to bruise them as they will rot if injured. October is the planting month in Western Oregon.

A medium loam soil containing a little sand and well drained is best and commercial fertilizer should be used. Deep and thorough preparation of the soil is necessary.

Plant in rows 14 inches apart—sets 4 inches apart in the row. It requires 175 to 200 lbs. to plant an acre. When approaching maturity, the tops die down and are not removed but used to braid the Garlic together for hanging up and convenience in handling. An acre should produce from two to four tons.

**Write for Prices.**

## ENDIVE

This is a hardy vegetable, cultivated principally for a Winter salad. Sow from May until August for a succession of crops; tie the leaves closely together to blanch them.

### BROAD LEAVED BATAVIAN (Escarolle)

Has broad, thick leaves, which form a large loose head.

**Pkt 5c, oz 15c, ¼ lb 45c**

### WHITE CURLED

A beautiful variety, with curled, mossy leaves, for early use.

**Pkt 5c, oz 15c, ¼ lb 45c**

### GREEN CURLED

Standard sort for Fall and Winter.

**Pkt 5c, oz 15c, ¼ lb 45c**

### HORSE RADISH ROOTS

*For prices and description, see Plant Department*

## KOHL RABI

Hardy and of easy culture. Grown from plants the same as cabbage. The Kohl Rabi is a vegetable intermediate between the cabbage and turnip and combines the flavor of both. The edible part is a turnip-shaped bulb formed by the swelling of the stem. Kohl Rabi is far superior to cabbage or turnips in the delicacy of its flavor and is a splendid addition to every garden. It should be eaten before growth ceases.

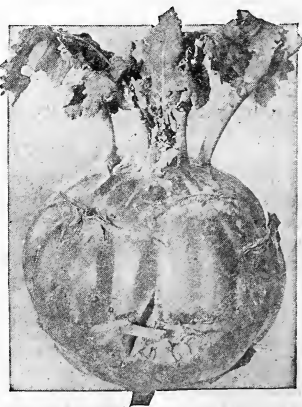
### EARLY WHITE VIENNA

Very early; bulb white; best table variety. **Pkt 5c, oz 25c, ¼ lb 75c**

### EARLY PURPLE VIENNA

Same as above except in color, which is purple.

**Pkt 5c, oz 25c, ¼ lb 75c**



## "CORONA DRY" THE UNIVERSAL INSECTICIDE FOR GARDENS

A safe, inexpensive, easily applied and efficient remedy for chewing garden pests—for use on fruit trees, berry bushes and plants that will insure perfect fruit and clean vegetables. "GARDEN PESTS AND THEIR CONTROL" tells how to use "Corona Dry" profitably in your garden. Free copy on request.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## HERB SEEDS—Sweet, Pot and Medicinal

Every garden should contain a collection of Herbs for flavoring and medicinal purposes. They are almost a household necessity; are easily grown, and many of them are very ornamental.

**CULTURE**—Herbs in general delight in rich, mellow soil. Those marked with an (\*) are perennial, and when once obtained in the garden may, with a little attention, be preserved for years. Sow the seeds early in the Spring in shallow drills, one foot apart. We offer some of the most useful and popular. They should be cut on a dry day, just before they come into full bloom, and tied in bunches and hung up or spread thinly on a floor where they can dry quickly. When dry and crisp, rub fine and bottle.

### All the following Herbs, 10c per Packet.

- Anise**—Seeds have useful medicinal properties; also used for flavoring.
- \*Balm**—Used for culinary purposes and for making Balm Tea.
- Basil**—Used for seasoning soups, having a decided flavor of cloves.
- Borage**—Excellent for bees, flowers are also in request for garnishing.
- Coriander**—Seeds used in confections; leaves for soups and salads. Very aromatic.
- Caraway**—For flavoring, the seeds being used extensively by bakers and confectioners.
- \*Catnip**—(Cat Mint).
- Dill**—The flower heads and seed are used in soups, stews and pickles; leaves have same flavor and can be used in like manner.
- \*Fennel**—For garnishing and fish sauce.
- Hyssop**—Used medicinally.
- \*Horehound**—Used medicinally as a cure for colds.
- \*Lavender**—By distillation produces the well-known Lavender water, the flowers for perfuming wardrobes, etc.
- Marjoram**—The sweet aromatic leaves in either a green or dry state are used for flavoring.
- \*Pennyroyal**—Used medicinally.
- \*Rosemary**—Infusions of the leaves are used in medicinal beverages. Produces an aromatic oil.
- \*Rue**—Leaves are used in medicine, also for roup in poultry.
- \*Sage**—The leaves and tender tops are used in stuffings and sauce; also in the beverage known as Sage Tea.
- Saffron**—Used for flavoring.
- Savory**—Summer. Used for flavoring.
- Savory**—Winter.
- Thyme**—Broadleaved, used in soup, stuffing and sauce.
- \*Wormwood**—Taken as a tonic in the form of tea.
- Tansy**—Used medicinally, as tea and bitters.

## Herb Seeds for Flavoring

- Anise**—Anise seed for flavoring.  $\frac{1}{4}$  lb 15c, 1b 50c
- Poppy**—Seed used for flavoring.  $\frac{1}{4}$  lb 25c, 1b 90c
- Mustard**—For flavoring and pickling.  
Lb 30c, postpaid 40c; 100 lbs market price
- Celery**—For flavoring. Oz 10c,  $\frac{1}{4}$  lb 20c, 1b 65c
- Caraway**—We keep constantly on hand a large stock of well preserved seed for the use of Druggists, Bakers and Confectioners.  
Oz 10,  $\frac{1}{4}$  lb 30c, 1b 95c
- Dill**—Used to flavor soups, stews and pickles. Leaves possess similar qualities, and can be used in same manner as seeds. **Market Price**

## Foreign Names of Herbs

A Stands for Annuals or those generally used for such. B for Biennials. P for Perennials.

ENGLISH	FRENCH	GERMAN	ITALIAN
A Anise	Anis	Anis	Anacio
P Balm	Melisse-Citronelle	Citronen-Melisse	Melissa
A Basil	Basilic-grand	Basilikum	Basilice
A Borage	Bourrache	Boretsch	Boragine
A Caraway	Cumin des pres	Feld-kummel	Carvi
A Catnip	Cataire	Katzenmunze	Cataria
A Coriander	Corian re	Koriander	Coriandorio
A-B Dill	Aneth	Dill	Aneto
P Fennel, Sweet	Fenouil	Fenchel	Finocchio
A Fenugreek	Fenugrec	Bockshornsamem	Foenungrasciene
P Horehound	Marrube Blanc	Andorn Kraut	Marrubio
P Hyssop	Hyssoppe	Isop	Isopo
P Lavender	Lavende	Lavendel	Lavanda
A-B-P Marjoram Sweet	Marjolaine	Majoran	Maggiarana
P Mint, Common	Menthe des Jardins	Munze	Menta
P Rosemary	Romarin	Rosmarin	Rosmarino
A Rue	Rue	Raute	Ruda
P Sage	Sauge	Salbei	Salvia
A Saffron	Safran	Safran	Zafferano
P Sorrel	Oseille	Sauerampfer	Acetosa
A Savory, Summer	Sarriette	Bohnenkraut	Santoregia
P Tansy	Tanaisie	Gemeiner Rainform	Atanasia
P Thyme	Thym	Thimian	Timo
P Wormwood	Absinthe	Wermuth	Assenzio

**WE SUPPLY HERB PLANTS IN MOST VARIETIES IN SEASON. SEE PLANT DEPT.**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**





## KALE

### EMERALD ISLE—Finest in the World

This is really the handsomest Kale that has ever come under our notice; and is entirely distinct from other strains, very hardy, of medium height, and very vigorous, throwing out new shoots as fast as the leaves are used, and will furnish excellent greens all winter. The closely curled, handsome leaves are most attractive and of fine flavor. Fine exhibition plant. Oregon grown seed.

Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 75c

### TALL GREEN CURLED SCOTCH

Grows about two feet high; leaves dark green, curled and wrinkled; very hardy and is improved by a slight frost.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 70c

### DWARF GREEN CURLED

Leaves beautifully curled and bright green.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 70c

For KOW-KALE See Page 43

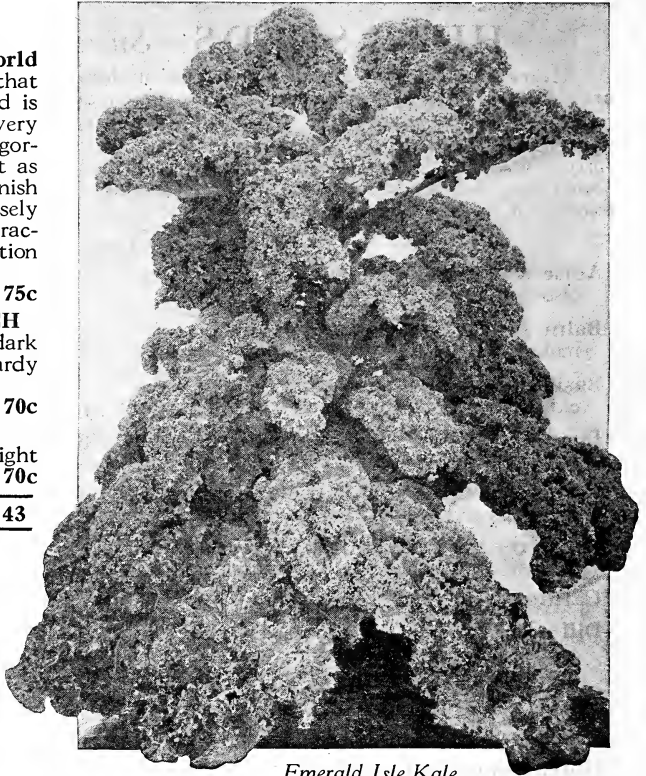
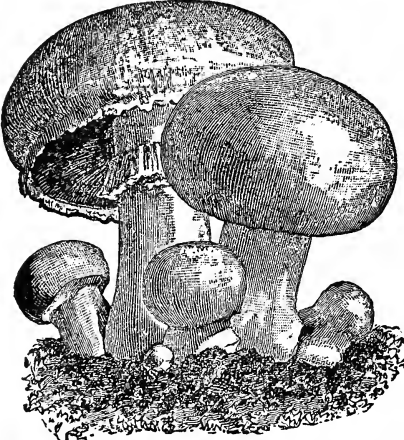
## LEEK

The Leek belongs to the Onion family. Prized for soups. Cultivate same as Onions, but should be hilled up about the neck to blanch it.

### LARGE ROUEN or American Flag

A large, favorite American sort.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 85c



*Emerald Isle Kale*

## MUSHROOM SPAWN

With intelligent care and good spawn, Mushrooms can be made to pay handsomely. They can be successfully grown in a dry cellar, under the benches of a greenhouse, or in sheds, where the temperature can be kept from 50° to 60° through the Winter. Our free pamphlet gives general instruction.

### NEW AMERICAN SPORE CULTURES

This Spawn is produced from the original spores by the new French process—exclusively controlled by the American Spawn Co., and is the only method by which select varieties can be perpetuated and improved. Bricks weigh about 20 ounces and will plant 10 square feet.

Price per brick 30c, postpaid 40c, by express not prepaid 5 bricks \$1.25.

**MUSHROOMS: How to Grow Them.** By Falconer. 162 pages. Postpaid.... \$1.60  
**MUSHROOM CULTURE and Pure Culture Spawn.** 32 pages. Postpaid.... .35

## MUSTARD

The varieties we offer make the finest of greens when used alone or if combined with cress furnishes a delicious salad. Sow any time in the Spring, in rows, and thin out as necessary.

**FORDHOOK CURLED**—Beautiful dark green, finely curled plume-like leaves that are of distinctive flavor; superior to spinach as greens and is fine for salads. "Fordhook Curled" is vigorous and productive.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.25

**SOUTHERN GIANT CURLED**—We offer a fine strain of the true curled leaf.

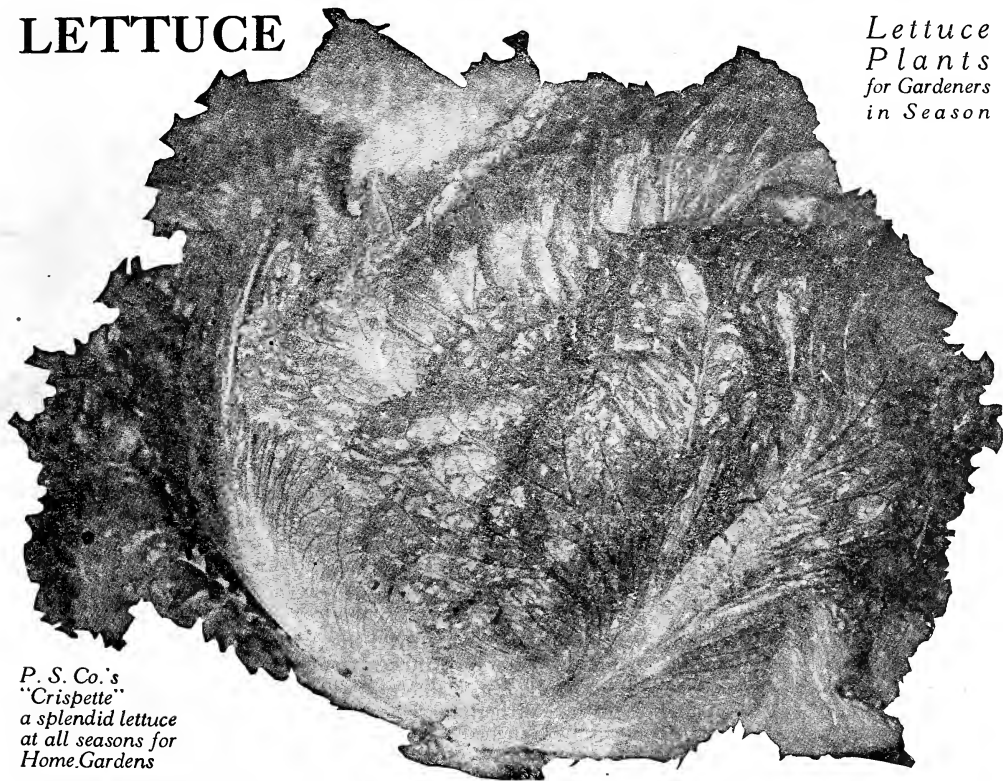
Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.10

**CHINESE MUSTARD**—Less pungent than other varieties. Chinese Mustard is most delicious, thriving at the same season and under conditions that are favorable to spinach.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.10

# LETTUCE

*Lettuce  
Plants  
for Gardeners  
in Season*



*P. S. Co.'s  
"Crispette"  
a splendid lettuce  
at all seasons for  
Home Gardens*

**CULTURE**—Lettuce is so extensively grown that cultural directions seem unnecessary, but we offer a few simple suggestions that may save a later disappointment, as any failure is generally blamed to the seed. This should not be, as Lettuce, like many other vegetables, requires very rich soil, plenty of water, a cool growing season and intense culture to produce the best results. If the earliest varieties are planted out in the Spring, and the weather turns dry and hot, they will run up to seed without heading. The same seed sown in the Fall or with cooler growing weather would develop perfectly. At a temperature of 40 degrees or lower Lettuce will not thrive. At 65 degrees and upward it has a tendency to run up and not head properly. For outside planting sow the seed in shallow drills from one to two ounces to the 100 yards. An ounce will produce 3,000 plants. Four pounds should plant an acre. Lettuce matures in forty to sixty days from time of planting.



## P. S. CO.'S CRISPETTE

Our "New Crispette" is a beautiful lettuce, the quality of which is simply perfect. The large, curly leaves, which cover the outside of the solid heads, are of a bright, light green. The unusual solidity of the heads is insured by the large, white main ribs of the leaves, each of which curving strongly toward the center, makes it impossible for the leaves to open outward and expose the center, which will always be found crisp, tender, sweet and melting. It matters not whether grown to head in the early Spring or the hottest days of Summer, the leaves are always **crisp and tender**.

**Pkt 10c, oz 25c, ¼ lb 75c, lb \$2.50**

## MAY KING

A large growing, smooth leaved, richly flavored sort. Plant, light green, with round leaves, which form into a very solid, compact, round head; stands a long time without running to seed. Inner leaves blanch to a rich golden yellow. **Exceedingly rich, tender and buttery.** Fine for open ground or forcing. For succession plant in spring, then in August and again in September.

**Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25**



## SIMPSON'S EARLY CURLED

A leading market variety used for very early planting and forcing. Forms a dense mass of finely curled and wrinkled leaves that are excellent and tender, and do not wilt readily.

**Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25**

## BLACK SEEDED SIMPSON

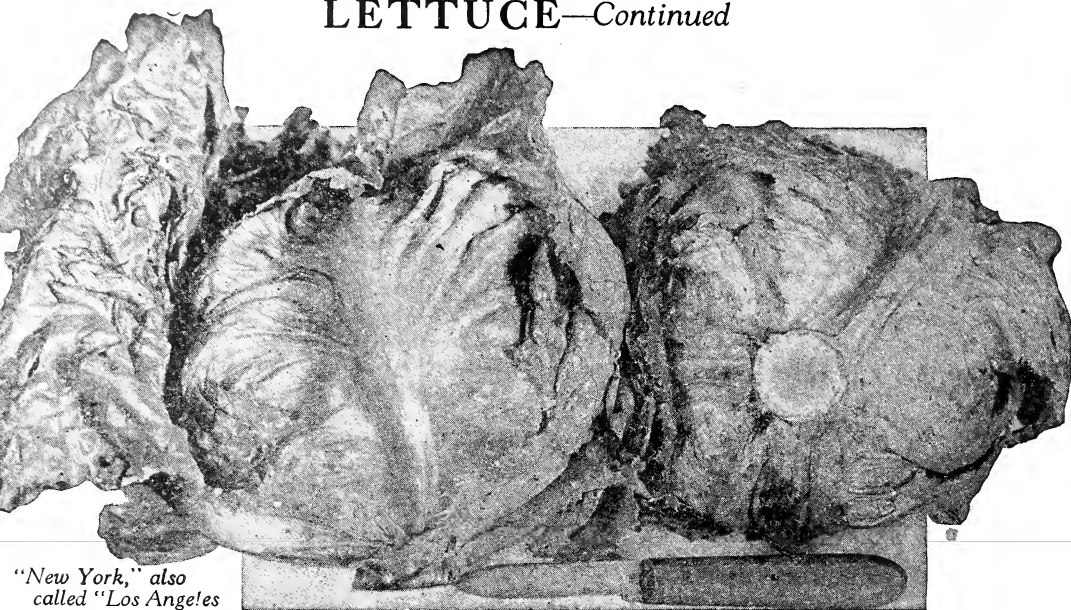
Forms a close, compact mass of curly leaves of a yellowish green. **Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25**

**DIAMOND FERTILIZERS WILL FORCE LETTUCE EARLY—Make Big Solid Heads—Tell us whether you are growing under glass or outside and we can tell you what fertilizer is best, and how to use it profitably—Fertilizer Book Free—Ask for it**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## LETTUCE—Continued



*"New York," also  
called "Los Angeles  
Market"*

### NEW YORK OR WONDERFUL The Best Head Lettuce for Market Growers

This is the mammoth head lettuce so popular in California, where it is known as "Los Angeles Market," from whence it is shipped to the Northern markets, arriving in splendid condition. The immense heads are solid, heavy, beautifully blanching to a creamy white, with bright green outer leaves. The quality is unsurpassed, being tender, crisp and sweet. "New York" is a hardy, rapid grower, deep rooted and resistant to drought; a slow seeder and sure to head.

**Pkt 10c, oz 30c, ¼ lb \$1.00, 1b \$3.50**

### HANSON Improved Hard Heading Stock

One of the very best. Heads green outside and white inside; grow to a remarkable size, very solid, and is deliciously sweet, crisp and tender. It withstands the hot sun well.

**Pkt 5c, oz 15c, ¼ lb 40c, 1b \$1.25**

### GRAND RAPIDS For Early Forcing

As a Lettuce for greenhouse forcing, this variety undoubtedly stands at the head of the list. Of quick growth, and stands for some days after being fit to cut. The plant is upright, and forms a loose head or cluster of large, light yellowish green leaves, slightly crimped and blistered, rather thin, good flavor, crisp and tender. It will stand shipping better than most curled sorts.

**Pkt 5c, oz 15c, ¼ lb 40c, 1b \$1.25**

### WHITE PARIS CO.'S

Oval heads of upright growth; tender and crisp.

**Pkt 5c, oz 15c, ¼ lb 45c, 1b. \$1.50**

### BROWN DUTCH

Forms a large, solid head, sweet, tender and of good flavor. Outer leaves are tinged with brown. It is very hardy.

**Pkt 5c, oz 15c, ¼ lb 40c, 1b \$1.25**



*Grand Rapids*



**BURRELL GEM**

The Perfect Melon for Market or Home Gardens

"Burrell's Gem" has a tough, thin rind, well arched ribs, covered with a closely interlaced gray netting; shape elongated, being about 4½ inches in diameter by 6 inches long, flesh of a reddish orange, very thick, fine grained and spicy, seed held firmly in a triangular cavity. This is the secret of a good shipping melon. If the seeds shake loose easily a melon will quickly decay.

Pkt 5c, oz 15c, ¼ lb 45c, lb \$1.40

**OSAGE, OR MILLER'S CREAM**

One of the finest flavored melons in cultivation, and highly recommended. The flesh is of a rich salmon color, very sweet and melting in quality.

Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25

## MUSKMELONS

**CULTURE**—Plant in hills four to six feet apart each way, after danger of frost is past and ground is warm; enrich well with well-rotted manure and plant the seeds just under the surface, not too deep. One ounce to fifty hills; two or three pounds per acre.

Melons thrive best on warm, light soils, but good crops are obtained on heavy ground if it is rich and well drained; in cultivating, hill up by drawing the soil toward the plant. Use Bug Death, lime, slug shot or land plaster for destroying insects.

### BURRELL'S RUSTLESS ROCKY FORD CANTALOUPE

This new melon, the highest development of the "Rocky Ford" type, has light green flesh which is very deep, rich and delicious, the quality being unsurpassed. It is solidly netted, thrifty, vigorous, rust resistant and a continuous bearer until frost.

Pkt 5c, oz 15c, ¼ lb 45c, lb \$1.40

**ROCKY FORD OR NETTED GEM**

The fruit is oval, slightly ribbed, densely covered with coarse netting. Flesh thick, green, very sweet and highly flavored. The fruit is wonderfully uniform in shape and quality. A favorite with market gardeners everywhere.

Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25

**SMALL GREEN NUTMEG**

A variety ripening early. Flesh, green, fine and sweet. Superior for the early market, or family garden, and a favorite for hotels and restaurants.

Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25

**LARGE YELLOW CANTALOUPE**

Early and productive; flesh salmon color, rich, sweet.

Pkt 5c, oz 15c, ¼ lb 40c, lb \$1.25

## WATERMELONS

**CULTURE**—Watermelons thrive best on light, well-drained soils, but give good results on any good rich garden soil that is properly drained and cultivated. Plant after the weather is settled and ground warm. Hills should be eight feet apart each way and with well rotted manure thoroughly worked into each hill. One ounce of seed will plant thirty hills, two to three pounds per acre. Thin to two or three plants per hill.

**TOM WATSON**

This excellent new melon is of elongated form, averaging 18 to 24 inches in length, 10 to 12 inches in diameter, has a thin, dark green rind and deep red flesh; crisp and sugary, with a lusciousness and distinctive flavor that makes it one of the finest melons ever produced; is hardy, early and stands handling and long shipment. We consider it a valuable market or home variety.

Pkt 5c, oz 15c, ¼ lb 30c, lb \$1.00

**ICE CREAM, OR PEERLESS**

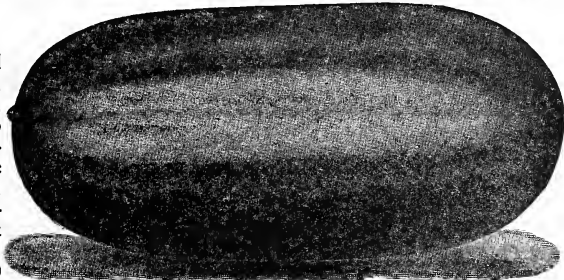
A grand favorite and standard variety. Superior in every respect. Has beautiful crimson core, which is always fine grained; cannot be surpassed in flavor; very prolific.

Pkt 5c, oz 15c, ¼ lb 30c, lb \$1.00

**KLECKLEY'S SWEET, or MONTE CRISTO**

A splendid sort for home use or near markets. Vine vigorous and productive; fruit of medium size; oval; color dark, mottled green in two shades, forming indistinct stripes. Flesh a beautiful bright rich red; exceedingly sweet and tender.

Pkt 5c, oz 15c, ¼ lb 30c, lb \$1.00

**SWEET HEART**

Good shipper. Vine vigorous and productive, ripening its fruit early. Fruit large, oval, very heavy, uniformly mottled dark and very light green; rind thin, but firm; flesh bright red, firm solid, but very tender, melting and sweet. Fruit retains its good quality for a long time after ripening.

Pkt 5c, oz 15c, ¼ lb 30c, lb \$1.00

**CITRON**

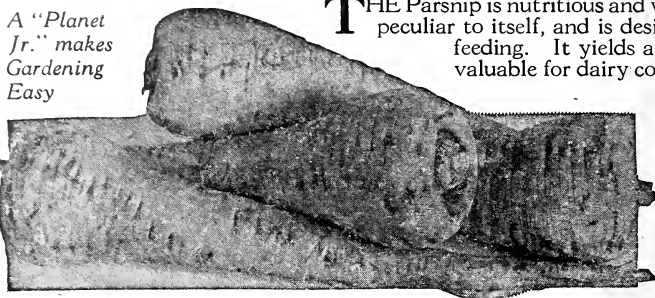
Grown for preserving and pickling.

Pkt 5c, oz 15c, ¼ lb 30c, lb \$1.00



## PARSNIPS

A "Planet  
Jr." makes  
Gardening  
Easy



**T**HE Parsnip is nutritious and wholesome, with a sugary sweetness peculiar to itself, and is desirable both for the table and stock feeding. It yields a large crop, and is said to be more valuable for dairy cows than either the carrot or turnip.

**CULTURE**—As the seed germinates very slowly, sow as early in Spring as possible, in drills fifteen inches apart on deeply cultivated, rich, loamy soil. Keep clear of weeds and thin to three or four inches apart. The roots of the parsnip are improved by freezing.

### HOLLOW CROWN OR LONG WHITE

Root very long, white, smooth, tender, sugary, and of most excellent flavor. Very hardy; will keep through the Winter without protection.

Pkt 5 oz 15c,  $\frac{1}{2}$  lb 40c, lb \$1.25

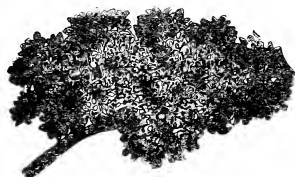
### EARLY HALF LONG

Ready in 90 days. Medium sized, easily dug, has a fine, rich flavor — good for home gardens.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.25

## PARSLEY

### PLAIN



Very useful for flavoring soups, meats and for garnishing. The green leaves are used for flavoring or they may be dried crisp, rubbed to a powder and kept in bottles until needed.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb \$1.00

### EXTRA DOUBLE-CURLED

A fine, free growing, but not large variety. The plants bear a great number of leaves, which are so abundant and so finely curled that they resemble a bunch of moss.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb \$1.00

### TURNIP-ROOTED OR HAMBURG

The root, which resembles a small turnip, is the edible portion of this variety. Extensively grown and used for flavoring soups, etc.

Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb \$1.00

## PEPPER

Sow the seeds early in hotbeds; or later, when the weather becomes warm, in open beds. When two or three inches high, transplant to a warm, mellow soil, in rows eighteen inches apart and a foot apart in the rows. Guano and hen manure are excellent fertilizers and will greatly increase the yield.

**NEW PERFECTION PEPPER**—Perfection is well named, as these perfect peppers are unequaled for quality and sweetness, are large, smooth, with flesh 3 times as thick as in other varieties, and the skin can be slipped off by heating or boiling a little, or you can pare them like you would an apple. Growth is vigorous. Yield is heavy and continuous, bearing until frost.

Pkt 10c, oz 70c

**RUBY KING**—Very large, sweet and mild; bright scarlet.

Pkt.	Oz.
5c	70c

**LARGE BELL, or BULL NOSE**—Large, mild, thick fleshed variety. One of the best for stuffed pickles.

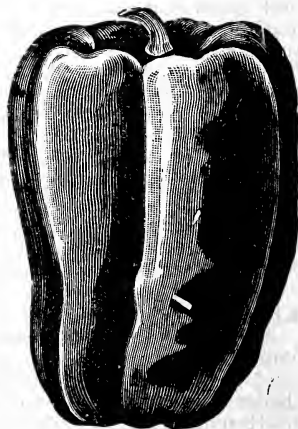
5c	70c
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**CAYENNE**—Pods long; bright red; very pungent and used very largely with pickles when green.

5c	70c
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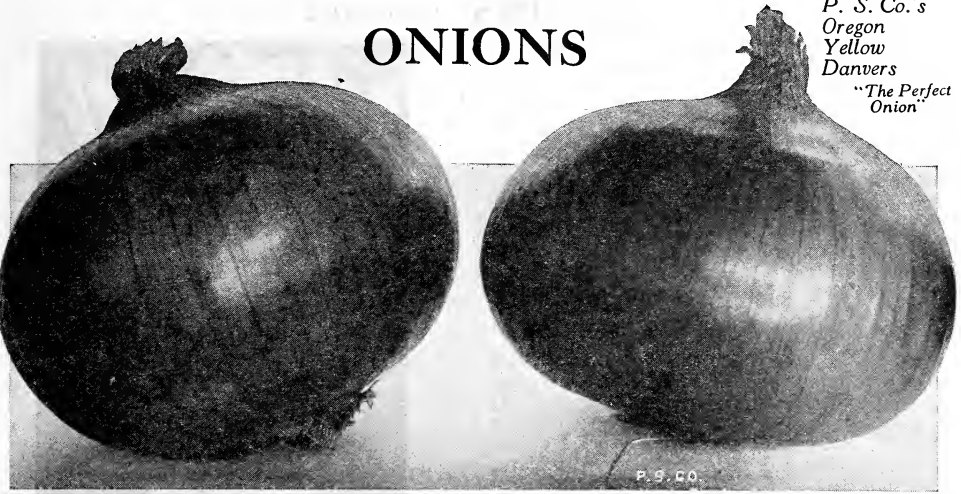
**CHILI**—Pods small and pointed; brilliant scarlet; very pungent when ripe.

5c	70c
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# ONIONS

P. S. Co.'s  
Oregon  
Yellow  
Danvers  
"The Perfect  
Onion"



**WE** are large growers of Onion Seeds and Sets, and for years have been specializing on varieties that attain their greatest perfection in the Northwest and believe in our "OREGON YELLOW DANVERS" we have the finest type of Danver Onion ever offered, and recommend it to all commercial growers.

**CULTURE**—For the best results in Onion growing, the soil should be deep and rich; bottom land of rather loose texture being preferred—(beaverdam soil is best).

Sow  $2\frac{1}{2}$  or 3 lbs. of seed per acre, as early in the season as the ground can be put into proper condition, using some good fertilizer such as our special Onion Fertilizer, or manure supplemented with Bone Meal, Muriate of Potash, and in some cases Nitrate of Soda, the latter often being used after the plants are up, while the other fertilizers are worked into the soil before the seed is sown. Hardwood ashes may take the place of the Muriate of Potash.

Thorough clean cultivation and thinning during the growing season is necessary.

In the Fall the tops of the Onions will naturally fall to the ground and shrivel up and the roots let go their grip on the soil, then the Onions should be lifted and allowed to dry off for a day or two before storing away. If the weather remains too wet to dry off in the fields, the Onions may be put under open sheds for a while where there is a good circulation of air.

In case the tops do not die off naturally, they may be broken down and so cause the bulbs to ripen quicker, but such Onions will not make good keeping bulbs, and should be disposed of as soon as possible.

To be sure of a good crop, sow none but the best of seed—it may cost a little more than a cheaper grade of seed, but it is worth more than the difference in the price.

## Portland Seed Co.'s Oregon Yellow Danvers

This type was developed in Oregon and is the standard market variety in this section.

The bulbs are uniformly large, of a half globe form with small neck and have the thin, brownish-yellow skin of the Danver types and the firm, fine grained flesh is very white and mild.

**Oregon Yellow Danvers** produce the largest crops, ripen up hard and early, are the best keepers and bring the highest prices in the Coast markets; and as a table or market onion has no rival.

The seed we offer is produced under the most approved methods of culture and no grower can afford to plant inferior seed when we can supply **Oregon Grown Yellow Danvers**.

Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 80c, lb \$2.75

### YELLOW GLOBE DANVERS

This is the type most widely known and used as a main crop variety. A very handsome, round or globe-shaped variety of large size, with thin, yellowish skin, white flesh, fine grained, mild, very firm, and the best of keepers. Ripens early.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 75, lb \$2.50

### YELLOW FLAT DANVERS

The Yellow Flat Danvers has all the good points of the Globe but is a true flat type, a good cropper, matures quickly and is a good keeper. Is fine grained, mild and white.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00

**The New Planet Jr.** Combined Seeder and Wheel Hoe, will sow onions in a straight line and cover them at the proper depth, insuring a good stand without waste of seed. Saves time, saves work both in seeding and cultivating.

To grow Onions with the least work and most profit use a Planet Jr.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## ONIONS—Continued

### WHITE "BUNCHING" ONION

This variety is especially useful to market gardeners for producing an attractive "green onion." The young stalks are crisp and mild, attaining a good size before the bulb forms.

Pkt 10c, oz 30c,  $\frac{1}{4}$  lb 90c, lb \$3.00

### LARGE RED WETHERSFIELD

A standard variety; one of the most productive kinds, even in poor soil. Its good keeping qualities render it one of the best for shipping.

Pkt 5c, oz 25c,  $\frac{1}{4}$  lb 75c, lb \$2.50

### AUSTRALIAN BROWN

This onion resembles the Oregon "Yellow Danvers" in general appearance, but has a clear amber-brown skin that attracts buyers. It matures early, ripens uniformly, and will keep in good condition longer than any other onion. For late sowing and when necessary to replant, Australian Brown heads the list.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00

### WHITE PORTUGAL OR SILVER SKIN

Skin and flesh pure white; mild flavor and flat shape; grown largely for sets.

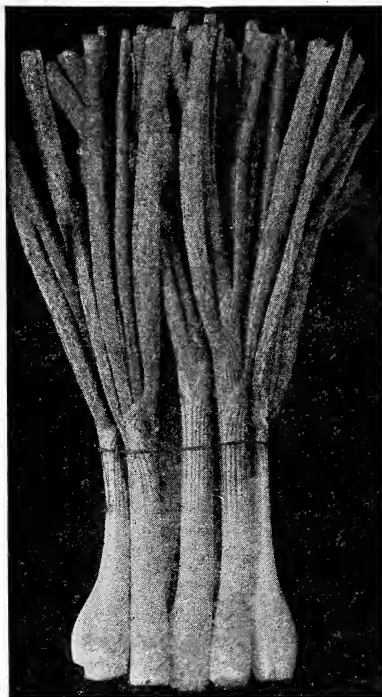
Pkt 10c, oz 30c,  $\frac{1}{4}$  lb 90c, lb \$3.00

### WHITE BARLETTA

A small, pure white, mild onion; fine for pickles. Pkt 5c, oz 50c,  $\frac{1}{4}$  lb \$1.50, lb \$5.00

### Planet Jr. Drills and Cultivators

A Planet Jr. Seeder will soon save enough seed to pay for itself; gives a better stand and makes cultivation easy. *Saves time and money.*



Bunching Onion

### QUEEN

If sown thickly, produces small, very firm bulbs, the best of all for pickling; if given more room, matures an excellent onion, that will keep all Winter. Pkt 5c, oz 50c,  $\frac{1}{4}$  lb \$1.50, lb \$5.00

## Onion Sets—Pound Prices Postpaid

### BOTTOM ONION SETS

Small onions grown from seed that has been sown too thickly to attain a large size. The small onions (about  $\frac{1}{2}$  inch in diameter) thus obtained are planted out and are ready in a short time to pull as green onions for the table or bunched for the market. If left to stand they make ripe onions of the best quality, and come to maturity some six weeks earlier than a crop grown directly from the seed. Per lb 30c

For Garlic see page 20

### TOP SETS

Produced in clusters.

Per lb 35c

### SHALLOTS

Valuable for bunching or for an early crop. The smallest sets make fine bulbs of good size, while the larger ones produce a cluster of small to medium-sized bulbs. Light brown skin; mild, white flesh. Per lb 35c

### BOTTOM MULTIPLIER

Potato Onion Sets.

Per lb 35c

## DIAMOND ONION FERTILIZER 1000 Pounds to the Acre

Our Free Book "FERTILIZERS" tells things you should know about fertilizers—gives analyses, values and crop requirements—tells what fertilizers are and how to use them

## OKRA OR GUMBO

### IMPROVED DWARF GREEN

Very early, with long, green, slender pods.

Pkt 5c—oz 10c— $\frac{1}{4}$  lb 25c—lb 75c

### WHITE VELVET

The large pods are smooth or very slightly ribbed, remain tender a long time.

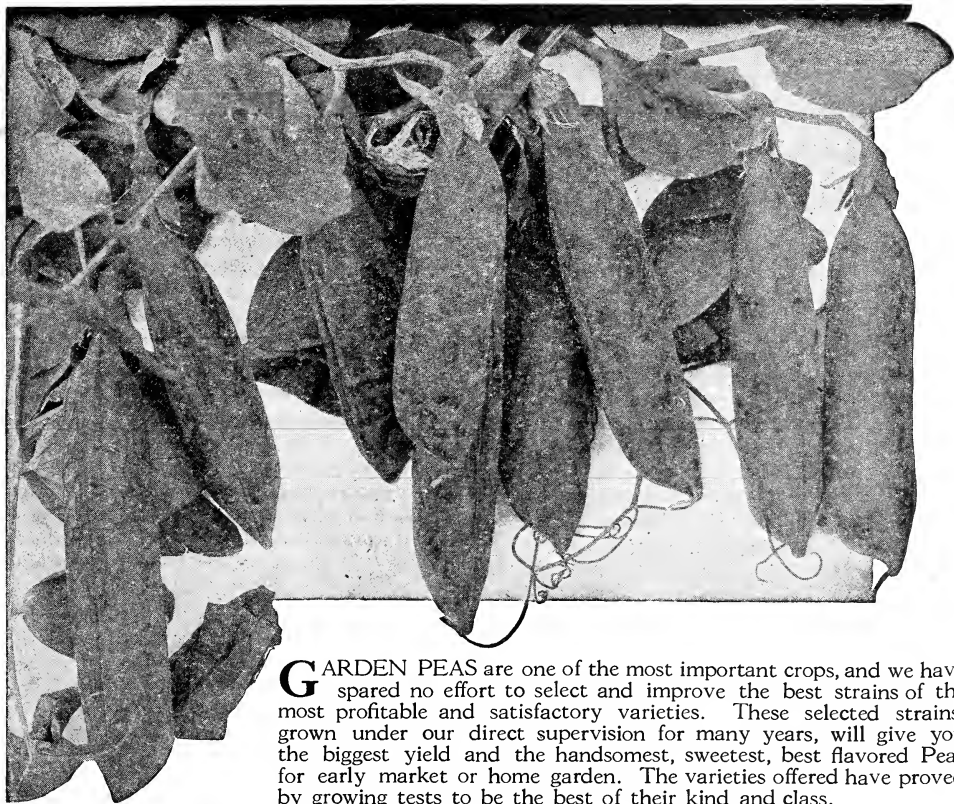
Pkt 5c—oz 10c— $\frac{1}{4}$  lb 25c—lb 75c

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

# GARDEN PEAS

"Diamond Quality." Selected Hand Picked

For single lbs. by mail add 10c postage—Larger lots at parcel post rates. Pkts are postpaid



**G**ARDEN PEAS are one of the most important crops, and we have spared no effort to select and improve the best strains of the most profitable and satisfactory varieties. These selected strains, grown under our direct supervision for many years, will give you the biggest yield and the handsomest, sweetest, best flavored Peas for early market or home garden. The varieties offered have proved by growing tests to be the best of their kind and class.

## LITTLE MARVEL

### Splendid New Dwarf Pea for Home or Market

The dwarf, bushy vines averaging 15 inches are loaded with firm, square-ended pods  $2\frac{1}{2}$  to 3 inches long, tightly filled with plump, luscious, deep green peas. "Little Marvel" is as early as "American Wonder," fully equals the superb quality of "Nott's Excelsior," and far outyields these two popular sorts.

Pkt 15c, 1b 35c, 10 lbs \$3.25

## LAXTONIAN

A new, early, dwarf, robust, large podded pea of superior excellence; growth averaging 16 inches. The large pods are well filled, holding 8 to 10 peas. "Laxtonian" is so highly recommended that you should give it a trial.

Pkt 15c, 1b 40c, 10 lbs \$3.75

## ALASKA OR EARLIEST OF ALL

A smooth, blue pea, of even, vigorous, growth and extra early maturity. Vines two to three feet high, unbranched, bearing four to seven long pods, which are filled with medium-sized, bright green peas of excellent flavor. A great favorite with our market gardeners for Fall or early Spring planting. Pkt 15c, 1b 25c, 10 lbs \$2.25

## PREMIUM GEM

Our select strain of this splendid variety is one of the earliest and best of the dwarf garden Peas. The vigorous, luxuriant vines average about 15 inches in height and are heavily loaded with well filled pods of rich, fine flavored sugary peas. Continues in bearing for a longer period than most varieties in this class. A splendid home garden pea for successive planting and for canning.

Pkt 15c, 1b 35c, 10 lbs \$3.00

## GRADUS

This extra early, wrinkled pea bears pods of large size and combines quality with earliness. It is very hardy; can be planted fully as early as the smooth peas; growth, vigorous and healthy; vines  $2\frac{1}{2}$  feet in height; very prolific. The quality and flavor are delicious and the peas remain tender and sweet for a long time.

Pkt 15c, 1b 40c, 10 lbs \$3.50

## AMERICAN WONDER

One of the most popular and best of the early wrinkled sorts. A great favorite for family use. Has stout, branching vines, covered with well-filled pods containing seven or eight large, exceedingly sweet, tender and well-flavored peas. Height 10 to 12 in. Pkt 15c, 1b 35c, 10 lbs \$3.25





## PEAS—Continued

### Late or Main Crop Varieties

#### TELEPHONE—Tall

**A Great Favorite with our Market Gardeners**

Our Oregon grown selection of this popular favorite and standard market variety is immensely productive, the extra large pods being filled with peas of the finest quality, the luscious sugary flavor not being excelled by any other variety. A strong, rapid grower, averaging 4 to 5 feet.

**Pkt 15c, 1b 35c, 10 lbs \$3.00**

#### IMPROVED STRATAGEM

One of the best of the large podded peas; the pods are of immense size filled with large, dark green, wrinkled peas of the finest quality; vine of medium height, but very stocky, with very broad, light green leaves, and bearing an abundance of large, handsome pods.

**Pkt 15c, 1b 30c, 10 lbs \$2.75**

#### YORKSHIRE HERO

One of the largest, sweet, wrinkled kinds; vines strong and spreading; pods of good size and well filled; much in use, and has enjoyed a long popularity; medium late; bears a long time; height, 2 ½ feet.

**Pkt 15c, 1b 30c, 10 lbs \$2.75**

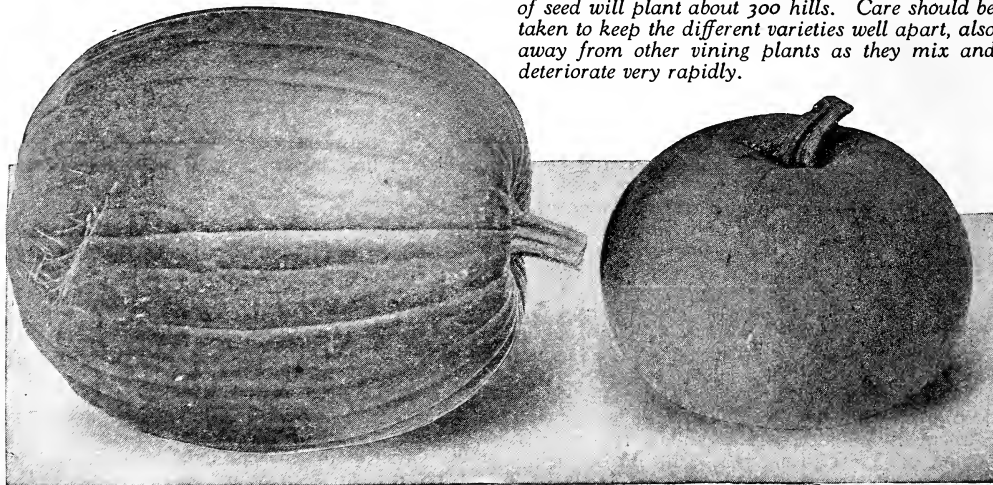
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**Mulford Cultures** FOR THE GROWER **FOR Garden Peas** increases the yield, enriches the soil. Garden size 50c, acre \$1.50, 5 acre \$5.00

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## PUMPKIN

**CULTURE**—Pumpkins will grow on any good farm land, but their size and quality will depend on the culture and fertility of the soil. Plant early in May, in hills six to eight feet apart. One pound of seed will plant about 300 hills. Care should be taken to keep the different varieties well apart, also away from other vining plants as they mix and deteriorate very rapidly.



*Sweet or Sugar and Winter Luxury are good Pie Pumpkins*

#### WINTER LUXURY

The best flavored pie pumpkin grown; enormously productive; excellent keeper; medium size; color, golden-russet, finely netted; flesh, deep golden, sweet, tender and very thick; none better.

**Pkt 5c, oz 15c, ¼ lb 40c, 1b \$1.25**

#### LARGE YELLOW OR CONNECTICUT FIELD

Large, round; deep, glossy yellow. Vines vigorous and very productive; good keeper. Grown extensively for stock feeding.

**Pkt 5c, oz 15c, ¼ lb 35c, 1b \$1.00**

#### SWEET OR SUGAR

A handsome and productive small pumpkin; skin, orange; flesh, deep yellow, fine grained, very sweet. This is the famous "New England Pie Pumpkin." **Pkt 5c, oz 15c, ¼ lb 40c, 1b \$1.25**

#### GIANT OF ALL "King of Mammoths"

This colossal Pumpkin is almost a globe in shape. The skin is of a beautiful, rich golden yellow, flesh firm, fine grained and deep yellow, sweet flavored, very thick and of excellent quality for so mammoth a variety. These Pumpkins attain an enormous size and will carry away prizes at your county fairs.

**Large Pkt 10c, oz 20c, ¼ lb 55c, 1b \$1.75**

# RADISHES

**CULTURE**—To secure Radishes with crisp, tender flesh, grow them quickly in rich, loose soil, and gather before reaching full size. Our Radish Seed is strictly of the finest grade, being grown from carefully selected roots. Frequent plantings should be made for succession, so that a supply of fresh, tender Radishes in the finest condition may be had at all times.

## EARLY CRIMSON GIANT

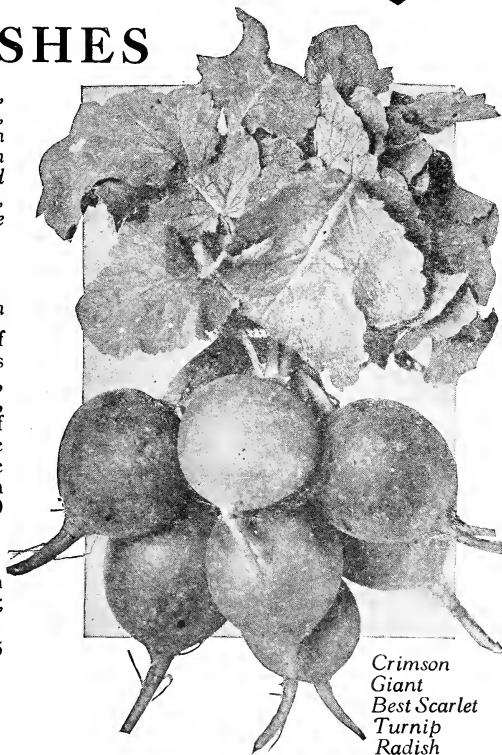
*The Largest Early Scarlet Turnip-Shaped Radish*

A new, early Radish, double the size of any of the turnip-shaped type, but, notwithstanding its immense size, **does not get hollow and pithy**. The flesh is a sparkling white, solid, crisp, juicy and of the mildest flavor. The shape of bulb varies from round to almost oval, but the bright, deep crimson color of skin remains quite constant. Excellent for both forcing and open ground. Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.50

## EARLY SCARLET TURNIP

A small, round, red turnip-shaped Radish, with small top and of very quick growth; very early; rich color and crisp, tender flesh.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15



*Crimson  
Giant  
Best Scarlet  
Turnip  
Radish*

## EARLY SCARLET TURNIP—White Tipped

A beautiful variety; deep scarlet with white tip. Very early. Has a small top, and may be planted closely. Flesh crisp, tender and sweet. Cannot fail to give satisfaction as a forcing Radish.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## EARLY LONG SCARLET, SHORT TOP

This bright scarlet, small topped sort is uniformly straight, smooth, brittle and crisp, and is an excellent sort for private gardens or market use.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## LONG BRIGHTEST SCARLET, WHITE TIPPED

This is the brightest and handsomest colored Scarlet Radish known. The lower third of the root is snow white; very attractive. Extra early and flesh very tender. Valuable for forcing or open ground.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## WHITE ICICLE

This superb Radish is the finest and longest of the very early, pure white varieties. Planted in the Spring, is ready for use in twenty to twenty-five days; their long, slender form and pure, paper-white skin are most attractive when bunched for market. This Radish is not only crisp and tender when young but also retains these qualities until the roots attain large size; is excellently adapted for forcing purposes or successive sowing in the open ground and gives a continuous supply of tender, crisp Radishes for the table or market throughout the season.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## EARLY SNOWBALL

Grand improvement on the White Box or White Turnip Radish, so popular for several years. Handsome in shape, very early, and has but few leaves, is of a clear white color, solid, juicy, crisp, tender and unsurpassed in flavor. A good sort for forcing.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15



*White Icicle  
Early, Sweet  
and Crisp*



## RADISHES—Continued

### IMPROVED CHARTIER

Roots long, tapering, and attaining a very large size. Of rapid growth; remains crisp and tender until fully grown. Color, scarlet above, shading into white at the tip. Flesh white and mild flavored.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

### FRENCH BREAKFAST OR HALF LONG

Medium size, quick growth, crisp and tender; lower end and taproot white.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

### LADY FINGER, OR WHITE VIENNA

Of rapid growth and beautiful shape. Skin and flesh snow-white; very juicy, firm, crisp and tender; the finest of Long White Radishes.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## Winter Radishes

### CHINA ROSE WINTER

One of the best Fall and Winter varieties; a favorite with market gardeners, bright rose color; flesh white, firm and of superior quality.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

### BLACK SPANISH LONG

Standard Winter sort; has good flavor and keeps well.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 35c, lb \$1.15

## SPINACH

This is an important gardener's crop, of easy culture. For Spring and Summer use, sow either broadcast or in drills one foot apart and one inch deep, as early as the ground can be worked, and every two weeks for a succession.

### SAVOY LEAVED—BLOOMSDALE

Very early; of upright growth; leaves pointed. Plant in the Autumn for Spring use; grows quickly. Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 75c

### NEW ZEALAND

A good summer variety, as when once established by early planting resists heat. Leaves soft, thick and fleshy. Differs in appearance from other varieties but is prepared in the same manner.

Pkt 10c, oz 20c,  $\frac{1}{4}$  lb 60, lb \$2.00

### IMPROVED THICK LEAVED

Variety which grows very rapidly, forming a cluster of large, very thick, slightly savoyed leaves of fine color, and quality when cooked. Best for market gardeners.

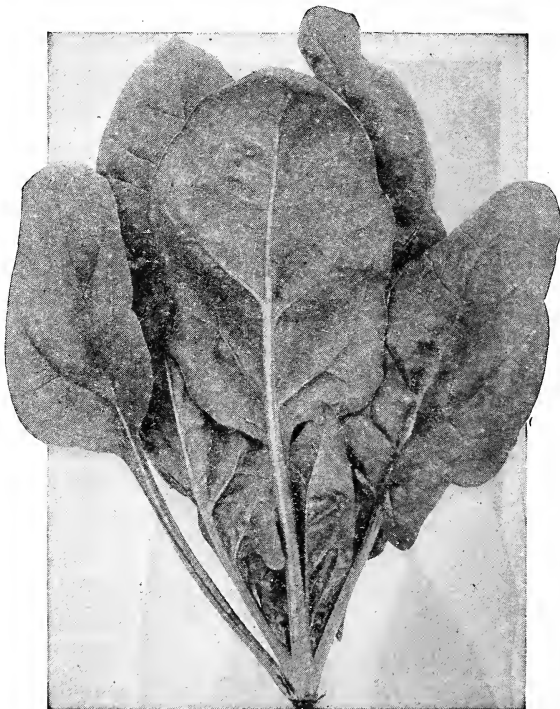
Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 75c

### PRICKLY WINTER

Hardest variety; must be sown in the Fall; seed prickly; leaves long, pointed, thick and succulent. Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 30c, lb \$1.00

### LONG STANDING

An improved variety for general use; large, fleshy savoyed leaves remain in an edible condition over a long period, being very slow to go to seed. Pkt 5c, oz 10c,  $\frac{1}{4}$  lb 25c, lb 75c



**Rhubarb Roots** From October to June we can always supply one or two-year-old Rhubarb Roots. Customers wanting only a few dozen roots for home gardens will save much valuable time by ordering roots instead of seeds.

For prices, see Plant Department.



# TOMATOES



**T**HE NEWER types of hardy, prolific Tomatoes are better adapted to the cool Coast climate than the older sorts; and splendid crops are now being grown where heretofore it was thought Tomatoes would not thrive. A good plan is to try several varieties and find which is best suited to your special conditions.

**CULTURE**—Sow early in hotbeds, and as soon as they have four leaves transplant into shallow boxes. Harden off, and set out as soon as danger of frost is past. An ounce of seed will produce 3,000 to 4,000 plants.

If blight appears use "Bordeaux" but it is better to use as a preventative before blight strikes the plant, and as a control measure for flea beetles, spraying the under side of foliage.

## JOHN BAER (Originator's Stock)

This variety is the result of fifteen generations of breeding; it produces perfect, solid, high crown, brilliant red tomatoes. They ripen ten days before Earliana, bearing 50 to 100 fruits per plant. The flavor is deliciously sweet. The plant will stand plenty of fertilizer without going to vine. Keeps well; is a good shipper; a prolific, continuous bearer, and has the unusual and remarkable feature of being easily peeled, the skin slipping readily from the rich, firm flesh. Resistant to wilt and other diseases.

**Pkt 10c, oz 65c, ¼ lb \$2.00**

## COMET—FORCING

The very best forcing variety and a general favorite with greenhouse growers. Color is a beautiful scarlet; fruits are of good size, very smooth and uniform.

**Pkt 10c, oz. 45c**

## NEW STONE

Popular with canners, growers and market gardeners. Its solidity and carrying qualities are remarkable. Color a desirable red. In shape, perfectly smooth and thicker from stem to blossom end than most varieties, making it very handsome and salable. **Pkt 5c, oz 40c, ¼ lb \$1.20**



## CHALK'S EARLY JEWEL

Large, bright red, smooth, round fruits, very deep and colored evenly up to the stem; very solid, almost seedless and of the finest flavor.

Vines are vigorous, not subject to blight, and yield fully equal to or better than Earliana.

We recommend Chalk's Early Jewel as the very best early Tomato for either market or home gardens, as it has given us uniformly better satisfaction under the varying conditions of soil and climate in the Northwest.

**Pkt 5c, oz 40c, ¼ lb \$1.20**

## BONNY BEST

Bonny Best has given splendid results wherever tried and being early, hardy and very productive can be recommended for outside planting wherever tomatoes can be grown. It is also a good forcing variety. Fruit smooth, round, slightly flattened, solid and of a bright scarlet. Quality excellent. **Pkt 5c, oz 40c, ¼ lb \$1.25**



## SPARK'S EARLIANA

### One of The Earliest Tomatoes

Of large, uniform size and beautiful red color. Ripens thoroughly all over, the stem end coloring up perfectly. Almost seedless and very solid. A most vigorous grower and heavy bearer, continuing until frost. Succeeds everywhere, and especially recommended for this Coast.

**Pkt 5c, oz 40c, ¼ lb \$1.20**



## TOMATOES—Continued

### LIVINGSTON GLOBE

**One of the best Early Tomatoes Hardy and Blight Resistant**

Fruits are of large, even size; very early; ripen clear through and are always smooth, firm and round; with solid meat and few seeds. Color is a beautiful glossy, rose-tinted purple; very productive. Livingston's Globe is of delicious table quality and will keep longer than any other tomato. Is also an excellent forcing variety.

**Pkt 5c, oz 40c, ¼ lb \$1.35**

### DWARF CHAMPION

Dwarf, upright growth; smooth, purple fruit. **Pkt 5c, oz 45c, ¼ lb \$1.35**

### NEW—CARTER'S SUNRISE

A very early English variety of fine flavor and healthy, vigorous growth, with solid flesh and few seeds; very even, smooth and shapely. Color, bright, rich scarlet. Is also one of the best forcing varieties.

**Pkt 10c, oz 45c, ¼ lb \$1.35**

### GOLDEN QUEEN

A first-class, large, smooth, pure yellow tomato. **Pkt 5c, oz 50c, ¼ lb \$1.40**

### YELLOW PEAR

A small pear-shaped tomato, borne in great profusion, vine literally covered with large clusters of fine, solid fruits; excellent for preserving, and for use in salads and cooking is superior, as flesh is not watery. Very hardy. To this class belongs **Yellow Plum** and **Yellow Cherry**. All same price.

**Pkt 5c, oz 70c, ¼ lb \$2.00**

### GROUND CHERRY OR HUSK TOMATO

Grows to great perfection under ordinary culture, yielding abundantly; very much prized for preserving; should be in every garden.

**Pkt 10c, oz 50c, ¼ lb \$1.65**



Ground  
Cherry  
or  
Husk  
Tomato

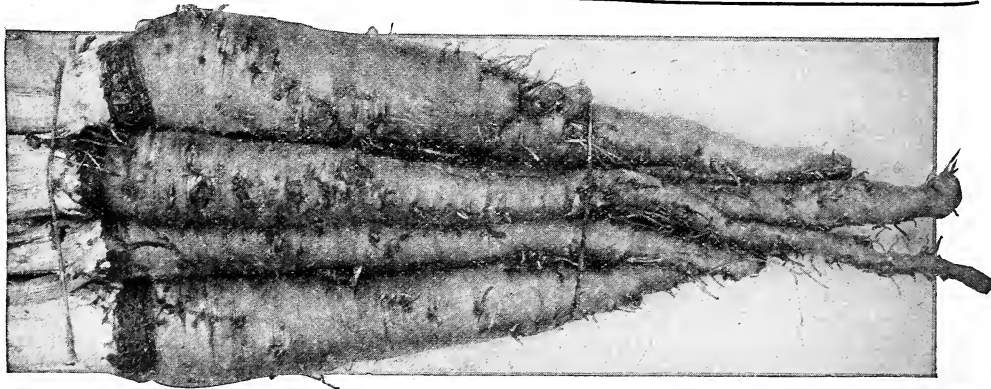
"Tomato Culture"

By Littooy

40 cents, postpaid

## Tomato Plants

STANDARD VARIETIES FOR SEASONABLE DELIVERY — FINE  
HEALTHY TRANSPLANTED AND POT GROWN PLANTS—Safely Packed  
and Shipped to any point in the Northwest.  
See Plant Department.



## SALSIFY or Vegetable Oyster

Salsify is a nutritious and wholesome vegetable, having the appearance of a small parsnip; in flavor closely resembling oysters, for which it is, in that respect, a good substitute. It is rapidly coming into more general use.

**CULTURE**—Sow early in Spring, in drills a foot apart, and when two or three inches high thin to three or four inches. Its general culture is the same as that recommended for carrots. The roots are perfectly hardy and may remain in the ground during Winter, or may be stored in dry earth or sand.

**MAMMOTH SANDWICH ISLAND**—The leading variety; produces a large crop of straight, smooth roots.

**Pkt 5c, oz 25c, ¼ lb 75c, 1b \$2.50**

## TOBACCO

**CULTURE**—Sow the seed thinly in beds, as early as they can be well prepared. Cultivate thoroughly, transplanting when six inches high to rows four feet apart each way.

### CONNECTICUT SEED LEAF

Hardy, and the best adapted to cool localities.

**Pkt 10c, oz 75c**

### HAVANA

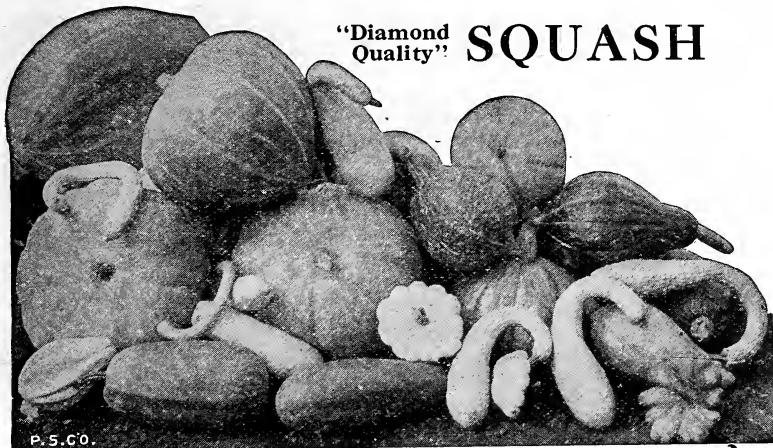
Of fine texture and delicate flavor.

**Pkt 10c, oz 75c**

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## "Diamond Quality" SQUASH



P. S. CO.

**CULTURE**—The plants are very tender and sensitive to cold, and planting must be delayed until settled warm weather. The general principles of culture are the same as those given for cucumbers and melons, but squash is less particular as to soil. The Summer varieties should be planted four to six feet apart each way and the winter sorts eight to ten feet. Three plants are sufficient to a hill.

To protect from beetles, young plants should be screened, and growth hastened by the application of our Diamond Fertilizer. Dusting the young plants thoroughly with "Corona" Dusting Powder, including the stem where it enters the soil, will often save them.

### Summer Varieties

#### MAMMOTH WHITE BUSH SCALLOP

The best Summer sort for the home garden or market; very productive and of good size.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 45c, lb \$1.25

#### MAMMOTH SUMMER CROOKNECK

Early, prolific, solid, curved neck; skin yellow, thin, hard and warty; flesh tender and of good quality. Earlier and larger than the ordinary Crookneck. Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 45c, lb \$1.25

### Winter Varieties

#### IMPROVED HUBBARD

The best seller and most popular variety on our list. Rind dark green, warty and very hard. Flesh light orange, very dry, sweet and rich flavored. Has no superior. Long keeper.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.50

#### MAMMOTH CHILI

The largest of all Squashes, growing to an enormous size, often weighing over 200 pounds, while its rich, fine flavored flesh insures its value for all purposes. Its size makes it valuable for stock feeding. Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$1.75

#### GOLDEN HUBBARD

The same in size, shape and quality as the well known Hubbard Squash, except that it is a bright red or golden color, and somewhat earlier. Good keeper.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.50

#### BOSTON MARROW

Skin yellowish, very thin; flesh dry and fine grained; of unsurpassed flavor.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.25

#### SIBLEY OR PIKE'S PEAK

Shell smooth, thin and of a pale green color; the flesh is thick, solid, deep orange color; very dry, fine grained with a delicate flavor.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.50

## TURNIPS—Ruta Baga or Swede

For feeding stock in Fall and Winter there is nothing superior to Turnips or Ruta Bagas, as they are much liked by all kinds of stock and serve to keep them in good condition. A profitable crop.

#### DANISH PURPLE TOP

Bangholm Pajbjerg

Danish Government first-class certificate for heaviest yield, 49 tons per acre. Elongated Globe type. Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.25

#### MONARCH OR TANKARD

Very solid, fine grained, of fine flavor; grows well out of the ground and yields large crops.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.25

#### SKIRVING'S

Enormously productive; flesh yellow, solid and sweet.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

#### WHITE SWEET RUSSIAN

Excellent for table or stock. Very large size; white, solid, sweet and rich; keeps well.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.25

#### IMPROVED AMERICAN PURPLE TOP

The leading variety; large, immense yielder. Superior in every way.

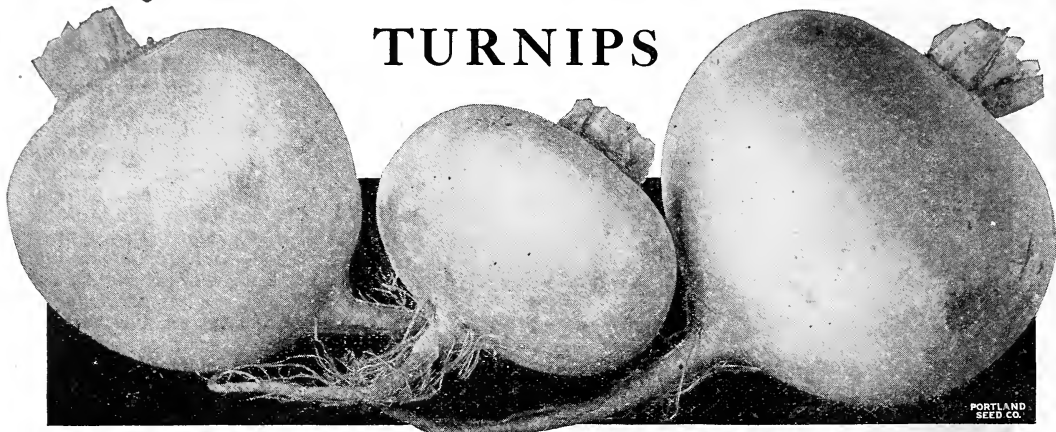
Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

## Cut Worm Food

Protects Tomatoes, Cabbage, Melons, Cucumbers and Other Plants—easily applied—inexpensive. Price, 1-lb pkg 35c



# TURNIPS



Golden Ball

White Milan

P. T. White Globe

**CULTURE**—For early use sow the small sorts as soon as the ground can be worked in the Spring, in drills fourteen inches apart. As the seed is very fine, it should be covered but slightly, except in very dry weather. For Fall and Winter use, sow the early kinds during July, August and September.

## Early Garden Turnips



### EARLY PURPLE TOP MILAN

This variety is ready for the table sooner after planting than any other yet introduced. Top small, erect, strap-leaved; bulb a deep purple above, white underneath; flesh white, firm and delicate. Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00



### EARLY WHITE MILAN

Same as Purple Top Milan, but pure white, sweet and tender; best early market variety.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00

### PURPLE TOP STRAP LEAF

A leading white-fleshed variety, and one of the best, either for the family, market garden or field crop. It is medium size, and produces a large crop. The flesh is firm, but tender, and of a superior rich buttery flavor. A good keeper.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

### EARLY WHITE FLAT DUTCH

One of the very best and most universally grown. Small, erect top, round, flat; flesh, white firm, but very tender and sweet. Of quick growth, it is soon ready for the table and keeps well.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

### EARLY SNOWBALL

Early round turnip, maturing in seven weeks, is of perfect form, snowy whiteness, crisp, solid, fine flavor.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.25

### GOLDEN BALL

Undoubtedly one of the most delicate and sweetest yellow-fleshed turnips yet introduced. Not of large size, but firm, hard and most excellent flavor. Keeps well and is superior as a table variety. It is extensively used by market gardeners.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.25

## Main Crop Turnips

### COWHORN

Sometimes called Long White. Slightly crooked. Pure white except a little shade of green at the top. Grows half out of the ground and is of very rapid growth. Is delicate and well flavored. Has proved itself one of the best stock turnips ever introduced in Oregon; an immense yielder.

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 50c, lb \$1.50

### POMERANIAN WHITE GLOBE

One of the most productive kinds, and in good, rich soil, roots will frequently grow to 12 pounds in weight. It is of perfect globe shape; skin white and smooth; leaves dark green and of strong growth.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

### PURPLE TOP WHITE GLOBE

A large, globe-shaped variety; purple above the ground. It is handsome and of excellent quality; recommended both for family garden and field crop.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.00

### LARGE WHITE NORFOLK

A white variety, usually attaining a very large size. Extensively grown for stock feeding. The leaves are also used for greens. It is hardy and may remain in the ground all Winter. Yields very large crop.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 40c, lb \$1.25

### WHITE EGG

Is perfectly smooth, of a pure, clear white, growing half out of the ground, and at times to the size of a Ruta Baga, being a very choice kind for table use; of excellent flavor; sweet and mild. Pulls clean from the ground, thin, snow-white skin.

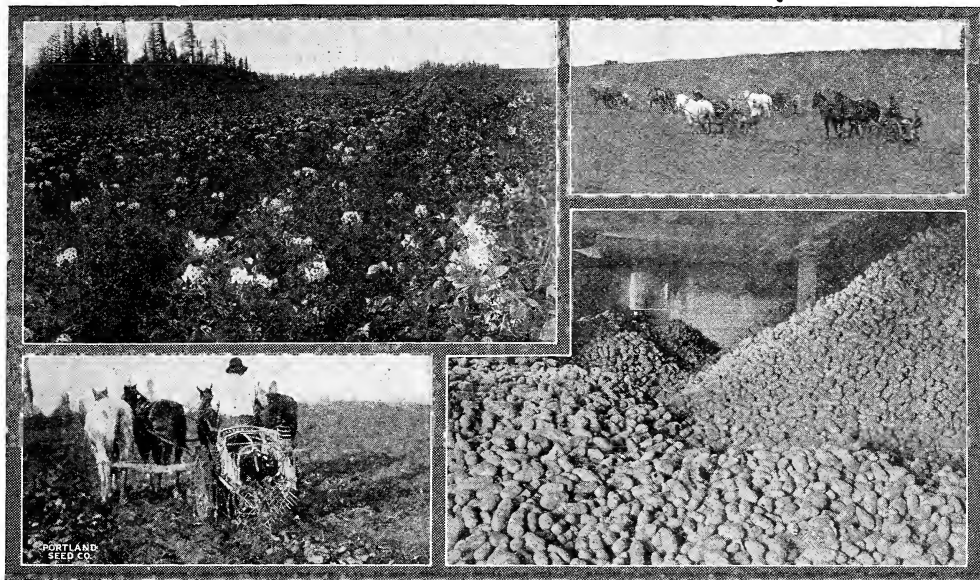
Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.25

### YELLOW ABERDEEN

Round, medium size; light yellow. Produces a large crop; is hardy and keeps well; flesh very firm but tender and sweet. A great favorite with the dairymen.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.25

# SEED POTATOES



*Views of seed crop of "Multnomah"*

**P**OTATOES are of such great economic importance as a food, give quick, sure, cash returns and are so valuable in crop rotations that our experience as growers may be of interest and helpful to others at this critical time when there is a general awakening to the necessity for better cultural methods, standardization of crops and above all a systematic selection of seed.

Unfavorable growing conditions in many sections and the urgent necessity for food conservation have made it plain that some action must be taken to improve the quality and increase the average yield.

## IMPORTANCE OF SELECTION

Two potatoes of equal appearance selected from the bin or pile may not produce the same general results, for the reason that the tendency is to reproduce the characteristics of the hill instead of the individual tuber, hence the selection of one good potato from an otherwise poor hill will not give the results that a potato of the same general appearance from a good heavy yielding hill. Small potatoes as a rule come from poor hills, and if planted tend to produce small potatoes and poor hills.

Ample evidence that potatoes do not "run out" under normal conditions is furnished by some of our standard, well known varieties, such as Burbanks, Garnet Chili, Early Ohio and Early Rose, which for 60 years, in the case of the Garnet Chili, have proven true to type and show great vigor and yielding qualities under favorable conditions, also demonstrating that excellent results are to be obtained by careful selection and good growing methods.

For many years we have been growing Seed Potatoes by careful re-selection and, comparative tests in various sections, have shown that our select seed will produce larger crops and more uniform, salable tubers with average soil and culture and have proven profitable and satisfactory under the conditions for which they are recommended.

## Choosing the Best Variety

There is no one best potato but there are many excellent sorts some of which will prove more profitable and satisfactory for your purpose than others. In choosing a variety of potatoes consider your soil conditions, market requirements, climate and seasons, and history of available seed stock.

We have much valuable data that will be helpful to you in your selection that is free on request.

**To secure a ready market and increase your profits you should grow only the best standard sorts that are known to be suited to your soil and are in demand in your market.**

The following descriptions have been carefully written from our own experience, with the addition of notes on origin of varieties from Bulletins of the U. S. Dept. of Agriculture.

The illustrations are from our own photographs of average types.

**POTATOES** are as sure and profitable a crop, investment and labor considered, as can be grown. And the varieties we offer (seed stock of our own growing), will produce the maximum yield of shapely salable tubers that will command the highest market prices. *We can tell you the best varieties for your market and soil.*





## GROWING POTATOES

**Y**OU can grow potatoes under most average conditions of soil and care, but for the big yields of shapely tubers that pay big profits it requires soil adapted to potato growing, good seed stock properly planted, and plenty of **cultivating at the right time**. You can make your soil fit by proper rotation and use of necessary fertilizers.

**SOIL REQUIREMENTS AND TREATMENT**—Good Potato soils—those that produce big yields of shapely tubers, having good table and keeping qualities—may be of several different types.

Clay loam, sandy or gravelly loam, silt, wet land and soils heavy in organic matter have all produced excellent potatoes. But only where the drainage is good and the soil well aerated and properly worked can best results be obtained. Given a soil of average fertility drainage is of the utmost importance, next in order being the organic content in the form of humus to retain the moisture and in the case of heavy soils to improve their mechanical condition after proper drainage has been secured. A soil rich in organic matter not only conserves the necessary moisture for the growing crop but is less susceptible to the extreme changes of atmospheric temperatures that are often so unfavorable to growth and development.

**SOIL AND DISEASES**—It is generally recognized that certain soil types are favorable to certain of our common potato diseases and where it is possible to do so, advantage should be taken of this knowledge and extreme care used to prevent the introduction of certain diseases to soil conditions that are favorable to their development.

Rhizoctonia and Black Leg, as examples, develop more freely and cause more loss on heavy wet soils. Scab is more prevalent in soils having an alkaline re-action.

Rhizoctonia is favored by an acid or neutral soil, therefore the alkalinity or acidity of the soil influencing certain diseases can become a factor in their control. The use of lime, producing an alkaline re-action may increase the amount of Scab, while the plowing under of a soiling crop will increase the acidity of the soil and lessens Scab but makes conditions more favorable for the development of Rhizoctonia.

Barnyard manure, bone meal, wood ashes and some of the forms of potash salts are all conducive to Scab and if used should be applied the Season or Fall previous to planting.

**SEED TREATMENT**—Dipping either in a solution of Formaldehyde or one of Bi-Chloride of Mercury (Corrosive Sublimate) are the two methods generally recommended for treating seed potatoes, as follows:

Formaldehyde, 40% Commercial Solution.....	1 pint
Water.....	30 gallons

Soak the potatoes in this solution for two hours and spread out to dry. This treatment is effective against Scab but as it is not to be depended upon for Rhizoctonia, the Bi-Chloride of Mercury solution is always recommended as it will do all that the Formaldehyde accomplishes and takes care of our most troublesome disease, Rhizoctonia. The Bi-Chloride of Mercury solution is prepared as follows:

Bi-Chloride of Mercury (Corrosive Sublimate).....	4 ounces
Water.....	30 gallons

Soak the potatoes in this solution from 1½ to 2 hours and dry before planting.

**SPECIAL NOTE**—In dissolving the corrosive sublimate use a small amount of hot water, about a gallon to the ounce, adding it to the cold water when it is dissolved as it will be impossible to get good results by attempting to mix the entire amount in cold water.

**WARNING**—The poisonous nature and corrosive action of this solution makes it necessary to use care in handling and to keep the treated potatoes from stock or poultry. Any that are not used should be burned or buried. Make the solution in a wooden or porcelain container as it will corrode metals and rapidly lose its strength.

Both of these solutions will lose strength through use or standing for any length of time and should be made up fresh and not more than four lots of potatoes dipped without renewing the solution. The dipping can be done in bags or crates but the potatoes should then be spread out to dry, care being taken not to re-infect them by using the same bags or containers or spreading them where they would again be in contact with untreated stock.

**GREENING**—After dipping, the seed should go through the process of greening, leaving them spread in the light and warmth when the light will cause them to assume a greenish color and sprouting will begin. Sprouts brought on in this way will be short and thick and the potato will awaken from its dormant condition and develop much more vigor and vitality than potatoes that are not so treated. The greening also is a big factor in eliminating fungus growth and diseases. Another very valuable result from greening is the time gained as the potatoes thus treated will germinate and develop very much earlier than they would otherwise.

**SPRAYING STORAGE HOUSES**—A storage house, cellar or bin should always be sprayed before putting the crop away. The following formulae being recommended—either one of which is easily prepared and applied by the use of any available sprayer or pump.

1 lb. Copper Sulphate to every 10 gals of water.

The formaldehyde solution is 1 pt. to each gallon of water—either of these should prove satisfactory if thoroughly applied.

**HAND POTATO PLANTERS — POTATO SPRAYS AND SPRAYERS — See Index**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

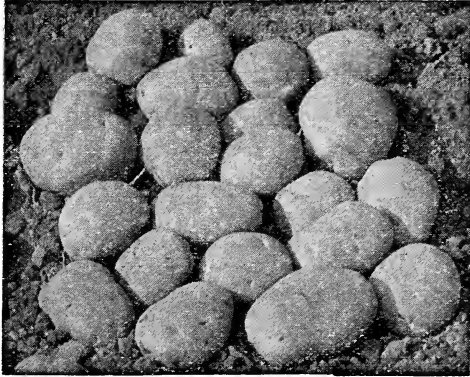


## EARLY VARIETIES

### Portland Seed Company's "EARLIEST OF ALL"

CAN BE HAD READY FOR BAKING 9 WEEKS FROM PLANTING, FULLY MATURED IN 12 WEEKS

ORIGINALLY a selection from Early Eureka introduced by Portland Seed Co., 1908, showing a marked difference in habit and greatly increased yield which years of careful re-selection have firmly fixed and improved. "Earliest of All" is a shallow eyed, white skinned variety of vigorous growth, not subject to blight or disease and does not make a second growth. The tubers are smoother and have fewer eyes than other varieties of this type. The white blossoms also easily distinguish it from Irish Cobbler, which has a purple bloom. Not affected by summer drouths owing to its quick growth and early maturity. Keeps as well as any late potato. The earliest of all early potatoes.



*"Earliest of All"*

Prices, not prepaid: 10 lbs or less 7½c lb.  
Write for prices in quantities.

TO BE SURE of getting the genuine "Earliest of All" buy direct from our Portland store. Beware of substitutions and varieties that are "just the same."

#### Early Rose:—

Strong, vigorous vines of medium height. Flowers white, rather abundant. Tubers quite smooth, elongated or oblong, stem and seed end rather blunt. Eyes shallow, but sharp and strongly marked; skin thin but tough. Flesh creamy white sometimes streaked with red, solid and brittle, rarely hollow. Our strain of this grand "old timer" is exceptionally good.

Prices, not prepaid: 10 lbs or less 6½c lb.  
Write for prices in quantities.



*American Wonder*

#### American Wonder:—

One of the earliest and best main crop varieties. Strong grower of branching habit and great producer. Tubers white, large and uniform in size; elongated and slightly compressed. Blooms white; foliage rich dark green. Our stock is of exceptional quality.

Prices, not prepaid: 10 lbs or less 6½c per lb. Write for prices in quantities.

In justice to our customers we are not cataloging quantity prices on potatoes; but will be pleased to make a firm price on any quantity wanted.

## Storage of Potatoes

The vigor and vitality of seed potatoes are greatly affected by storage conditions. Storage cellars need not be expensive or elaborate, but should be clean, dry and well ventilated. The temperature should be kept as near 34 to 38 degrees as possible. If potatoes are kept at this low temperature the fungus and rot spores do not germinate and grow, causing losses from disease and rot. The low temperature can be maintained through proper ventilation and by having double walls, or walls filled in between with some material that is a non-conductor of heat.

Great care should be exercised sorting the potatoes before storing them. Practically none of the diseases and rot spores affect the healthy potato that does not have the skin broken. But, through the fork stabs, cuts and bruises the rot spores have easy access, enter, and break down the potato. All damaged and diseased tubers should be culled out before the potatoes are stored.

A large percentage of the potatoes in this section of the Pacific Northwest are stored in basements or cellars, which are often filled from the floor above, allowing to accumulate in large piles, with the loose dirt running down in among the potatoes, this practically cuts off the air and the sprouts or eyes are literally smothered. This is often the cause of weak spindly sprouts in the Spring and fully two-thirds of the poor stands result from this cause.

Pits in well drained places, simple and inexpensive are all right properly ventilated. Potatoes should be allowed to cool before being stored in pits. Any sort of storage place that assures freedom from frost, excessive moisture and proper ventilation should prove satisfactory.

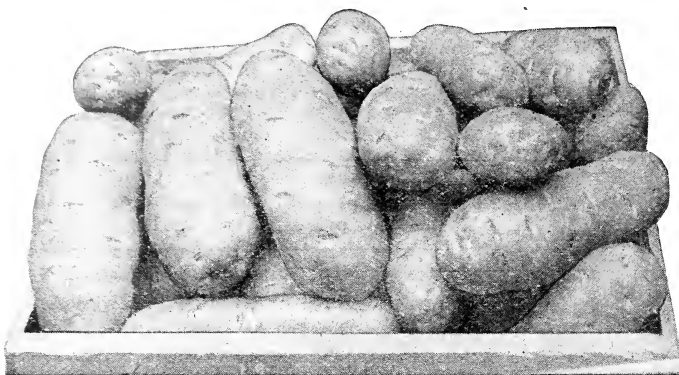
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## MAIN CROP AND LATE VARIETIES

### PRIDE OF MULTNOMAH

*Excels in Yield and Table Quality*



### PRIDE OF MULTNOMAH

Potato was introduced by us in 1909. Tubers are uniform in size, of the ideal elongated type with smooth, thin white skin; eyes shallow; flesh snow white, of finest table quality; flowers white; vines medium large of bushy growth; withstands drought; and is blight and disease resistant to a remarkable degree.

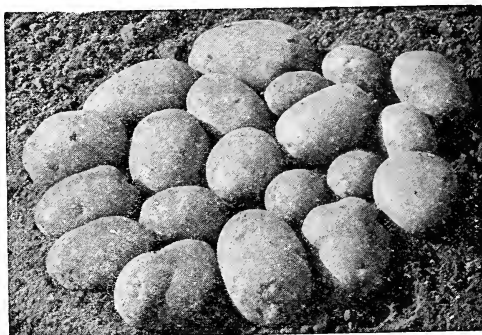
Pride of Multnomah is the leader in its class, being superior in yield, uniformity and table quality—holding the record yield for the State of California from our Oregon grown seed—790 bushels of clean, uniform stock, the prize acre at P. P. E., San Francisco, 1915.

**Prices: Not Prepaid, 10 lbs or less, 6½c lb. Write for prices in quantities.**

#### Producer:—

A large, smooth, oval, white potato with shallow eyes, of finest table quality, does not boil to pieces and has no superior baked. Is a hardy, vigorous grower, producing enormous yields and is especially valuable for dry or light soil, and has shown up better in our trials than any other new variety. Sample hills dug on overflowed river sediment averaged 4 lbs. 3 oz.—416 sacks of 120 lbs. each to the acre—without irrigation. *Producer* is our own introduction and gives promise of becoming the standard of its type in this market.

**Prices, not prepaid: 10 lbs or less 6½c lb. Write for prices in quantities.**

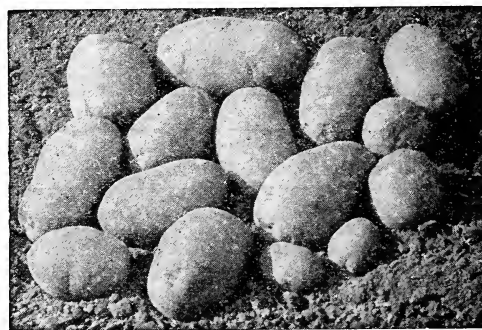


*Producer*

#### British Queen:—

A standard market potato in southern California, the shape being a flattened oval rather elongated, having few eyes and a beautiful creamy white skin. Abundant foliage and lavender flower—fading to light. Although not an early maturing potato, it makes a vigorous rapid growth and can be used quite early. The strain we have is the best. Owing to the great yields of this variety being obtained, it is certain to become a leader.

**Prices, not prepaid: 10 lbs or less 6½c lb. Write for prices in quantities.**



*British Queen*

## Fertilizers Increase Yield and Profits

Prof. L. P. Gilmore of the Monmouth Normal School, Monmouth, Oregon, reports an increase of 48 sacks per acre under irrigation and 43 sacks per acre under dry conditions by the use of 500 pounds per acre of **P. S. Co.'s Vegetable Fertilizer**, as follows:

Fertilized—Irrigated.....219 sacks  
Not Fertilized—Irrigated.....171

48

Fertilized—Dry Farming.....110 sacks  
Not Fertilized—Dry Farming.... 67

43

A very interesting point brought out by his experiments is the ratio of increase of the non-irrigated crop as compared to the increase under irrigation. The actual increase being about the same. These trials were carefully made and recorded, and demonstrate the great value of our fertilizers under all conditions.

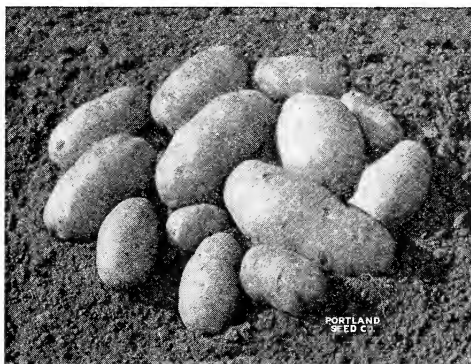
**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

## Main Crop and Late Varieties—Continued

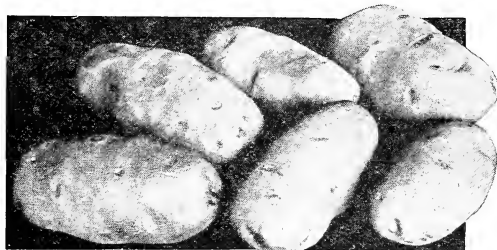
### Burbank:—

A standard commercial variety. Late and very productive. Skin nearly smooth. Eyes rather shallow. Tubers long and slightly flattened. Under proper selection it thrives equally as well now as at any time since its introduction. We offer a select true heavy yielding strain.

**Prices, not prepaid: 10 lbs or less 6½¢ per lb. Write for prices in quantities.**



*Burbank*



*Netted Gem*

**Netted Gem:—***California Russett, Russett Burbank, Yakima Gem, Idaho Russett, etc.*

A splendid main crop late potato that gives good results in dry sections. Tubers are elongated, medium sized with russet netted skin; flesh white; eyes are flush with surface; good keeper and produces a fine yield. This is the variety grown extensively by irrigation in Washington and Idaho for baking. Our stock is extra choice of the most improved type.

**Prices, not prepaid: 10 lbs or less 6½¢ per lb. Write for prices in quantities.**

### Sunflower, Mammoth Russian:

The largest and most productive variety. It is now being grown extensively for silage for

cattle and is proving of immense value. The seed is a valuable poultry food and is a great egg producer. It is usually drilled in 36-inch rows with the hills 4 inches apart in the row. In sections where the season is short it should be planted as soon as the soil is in good condition in the Spring. For silage it should be cut when 25 to 30 per cent of the plants are in bloom. In food value it is equal to corn silage and the yield 3 to 4 times as great. It has been demonstrated in many parts of the country that no other known forage plant will produce as great a tonnage of high grade food for livestock. See page 53.



**POTATO GROWERS SHOULD PRACTICE A FOUR-YEAR ROTATION.** *Grain, Clover, Corn, Potatoes. Scab and Rhizoctonia are not so troublesome when corn follows clover before potatoes.*

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## Monthly Planting Calendar for Vegetables

	Under Glass	Open Ground	Setting
ASPARAGUS—All varieties		March to May	Fall or Spring.
ARTICHOKE—Globe		March and April	Fall or Spring.
BEANS—Bush		May to July	
Pole		May and June	
BEET—Early		March and April	
Late		April to July	
Mangles Sugar and Swiss Chard		April to June	
BRUSSELS SPROUTS		April to June	July to September.
BROCCOLI		April to June	July to September.
CAULIFLOWER—Early	February	April to June	March and April.
Late	March	May and June	May to July.
CABBAGE—Early	February	April to June	March and April.
Late	March	May to July	May to July.
CARROT—Early		March and April	
Late		April to June	
CELERY—Early	February	April and May	April and May.
Late		April and May	May and June.
CHERVIL		April and May	
CHICORY		April and May	
CHIVES		March and April	April and May.
COLLARDS		April and May	
CORN—Sweet Early		May and June	
Sweet Late		May to July	
CORN SALAD		April to June	
CRESS		March to June	
CUCUMBER	March	May and June	May to July.
EGG PLANT	March		May to July.
ENDIVE		April to July	March to May.
HORSE RADISH		May and June	June and July.
KALE		April to June	May to July.
KOHL RABI		March to May	April to June.
LEEK	February	March and April	April and May.
LETTUCE—Early	February	April to August	May to August.
Late		May and June	May and June.
MELON	February	March to October	
MUSTARD		May and June	
OKRA		March to May	April to June.
ONION—For Dry Onions	February	March to October	
ONION SETS—For Bunching		March to June	
PARSLEY		March to June	
PARSNIP		March to June	
PEAS—First Early		October and November	
Second Early		March to July	
Late		April to July	
PEPPER	February and March	May and June	May and June.
PUMPKIN		April to July	
RADISH—Early	February	May to September	
Winter		April and May	November to April.
RHUBARB		April to June	
SALSIFY		April to October	
SPINACH	February	May and June	May and June.
SQUASH—Summer		May and June	
Fall and Winter		May and June	
TOBACCO	February and March		May and June.
TOMATO	February to April		May and June.
TURNIP—Early		March to May	
Late		April to September	
Ruta Baga		April and May	
HERB SEEDS		April and May	
POTATOES		April to July	


## Hints on Fertilizing the Garden

Where no manure is used the fertilizer should be spread over the surface of the finely prepared seed bed at the rate of five pounds for a plot ten feet square, just before planting. The surface soil should then be thoroughly raked so as to mix the fertilizer evenly to a depth of two inches. Never place seed or transplanted plants in direct contact with fertilizer.

Thoroughly mixing of the fertilizer with the soil is essential to prevent injury of seed or roots.

**Tomatoes, Potatoes, Spinach** and some other crops requiring rather long growing seasons, are materially benefitted by a second application of fertilizer when half grown. Side dressings of this kind should be scattered between the rows at the rate of four ounces (one-half pint) to ten feet of row, when rows are spaced two feet apart; and pro rata for rows spaced a greater or lesser distance. To insure even distribution mix the fertilizer with fine, dry earth just before spreading.

**Forcing Growth—Sodium Nitrate** is a very strong stimulant for young growing plants. Vegetables grown for their leaves and stems, like lettuce, cabbage, celery, etc., can be improved by a light application or two of Sodium Nitrate in the early growing period. Nitrate of Soda is readily soluble. Use one pound to a ten-quart pail of water. Apply this in small amounts some little distance from the plant. Repeat in from twenty to thirty days.

 Our Booklet "FERTILIZERS" tells what you should know about Fertilizers—what they are for, how and when to apply—and is mailed free on application.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG





## FIELD AND FARM SEEDS

**T**HERE are many varieties of grasses and forage plants offered by Eastern seedsmen (often under new names) that will not give profitable crops in our climate, and to avoid disappointment, we refer you to the following list, which has been carefully selected and contains the most desirable varieties for general and special purposes.

A careful reading of the following pages will give you much valuable information that has required years of observation and experimenting to obtain.

### IMPORTANT—Read Carefully

Clover, Grass and Field Seeds are subject to market changes, therefore we cannot print prices good for any length of time. When ready to buy, write us for special prices, stating quantity wanted; or send in your order. **We guarantee that we will give you full value for the money sent.** Pound prices quoted are postpaid. Owing to fluctuations in prices, prices given months ahead are often times misleading. **Write for prices.**

**MAMMOTH RUSSIAN SUNFLOWER** has been found to be one of the best silage plants grown. Feeding qualities are high and owing to its great tonnage yield is one of the cheapest feeds obtainable. **Try it.** See pages 41 and 53.

### ARTICHOKES



Artichoke  
Tubers

Planted and cultivated same as potatoes. Of great value, for feeding stock. They are the best hog feed known; are remarkable for fattening properties, great productiveness (over one thousand bushels having been raised on one acre) and ease with which they can be grown. They need not be dug. Turn the hogs into the field, and they will help themselves by rooting. One acre will keep from

twenty to thirty hogs in condition from October until April, highly recommended for milch cows, increasing yield of milk and at the same time improving their condition. Plant ten bushels per acre.

**Note**—Tubers on hand from January to May.

**Per lb postpaid 15c; F. O. B. Portland, 100 lbs \$2.50.**

### COW OR THOUSAND HEAD KALE Plants in Season

The great demand for this wonderful forage plant proves it to be the most valuable green feed for Pacific Coast dairy and stockmen; endorsed by Agricultural Colleges and Government Stations. Cow Kale should be grown in the same manner as cabbage. Make the rows 4 feet, plants 3 feet apart in the row. Can be set as late as July. Write for full information on Planting and Feeding.

**A quarter of a pound of seed will produce enough Kale plants for one acre.**

**Postpaid: Oz 10c; ¼ lb 30c; lb 90c**

### BUCKWHEAT

**Buckwheat** is a valuable crop that can be easily grown wherever wheat will grow, producing a good yield even on light or poor soil and under favorable conditions is very profitable, being in big demand for milling—and is also the best "Bee pasture."

Sow 36 lbs. per acre in drills, 48 lbs. broadcast. **COMMON—lb postpaid 20c. Write for prices in quantities.**

**SILVER HULL**—Of a light gray color, rounder than the common; has a thin husk; matures earlier and yields heavily. An excellent milling variety.

**Per lb postpaid 20c. Write for prices in quantities.**

**JAPANESE**—Ripens early—is hardy and yields the largest crops. The grains are extra large, dark brown, very thin hulled and makes the highest grade of flour.

**Per lb postpaid 20c. Write for prices in quantities.**

If you <sup>A</sup> *Sharples*  
Milk *Suction Feed*  
<sup>2 Cows</sup>  
<sup>or more</sup> *Separator*

Will save your time and soon pay for itself.

We are factory agents for Sharples  
Separators and Milking Machinery  
Full information on request

### FLAX SEED

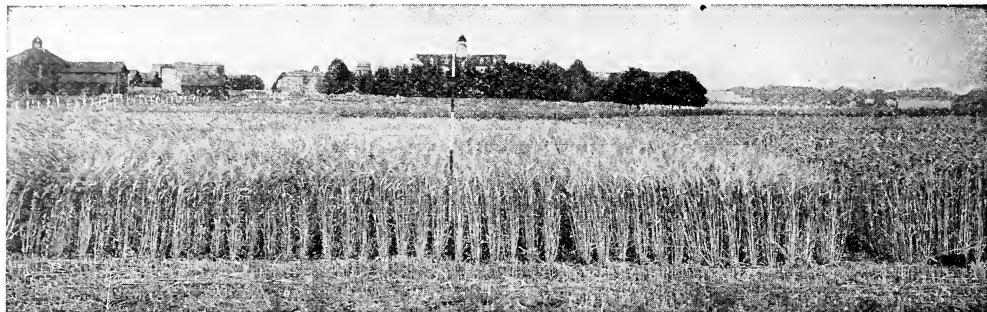
We have a splendid lot of selected re-cleaned Western-grown Flax, new crop, large plump seed. **Per lb postpaid 30c. Write for Prices**

**Remember** ALL PRICES ARE SUBJECT TO MARKET CHANGES.  
You will always get your money's worth or we will quote on request.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

# BARLEY

**BARLEY** is a shallow feeder, the roots growing near the surface, and requires a rich, mellow soil. Barley responds readily to good tillage and any extra work with the disc and fine tooth harrow will be amply repaid. Do not try to grow upon poor, sandy or worn out soils, or where the ground is not in good condition or well drained. In rotation, Barley follows Corn, Peas, Potatoes, or any cultivated crop, and is the best nurse crop for starting clovers or mixed grasses. Should be planted late after ground is warm and Spring weather settled. Plant two bushels per acre. Crimson Clover planted in the Fall and plowed under after blooming in the Spring, leaves the soil in fine condition for barley.



*Trial Plot of Hannchen Barley, Oregon Agricultural College*

## NEW—"ODERBRUCKER" BARLEY

This is a Pedigreed strain of 6-row barley, selected and bred by the University of Wisconsin, and is considered the earliest maturing, most prolific of all the barleys. Has a stiff straw, is rust resistant, and owing to its high protein content is a very superior feeding sort. This is the variety that was secured at great expense by the Oregon and Washington Railroad Co. for introduction in their territory. We offer the genuine stock of our own growing.

**Price: 1b postpaid 15c. Write for prices in quantities.**

**BLACK HULLESS BARLEY—Bearded**  
Best of Stocks for feeding or fattening stock. Greater food value than corn.

Black Hulless Barley will grow on the dry Alkali soil where other grains fail. Sow in the Fall or Spring as late as June 15, 75 to 100 lbs. per acre. Will yield as high as 75 bushels to the acre, weighing about 70 lbs. to the measured bushel; does not shatter or shell out easily.

When planted in the Fall its abnormal stooling habit and wide succulent leaves make it ideal for late Fall pasture yielding a full crop the next season. Stock prefer and thrive on it.

**Per lb postpaid 15c. Write for prices in quantities.**

## WHITE HULLESS OR BALD BARLEY Beardless

An early Spring variety—beardless, of high feeding value, said to exceed corn as a pork producer. Can be fed to all live stock—especially valuable used in a mixed ration. Grain plump, heavy and when threshed is hulless like wheat. A heavy cropper. When grown and cut for hay it produces a magnificent fodder, which is very rich and almost equal to a grain feed. Culture same as Common Barley.

**Per lb postpaid 15c. Write for prices in quantities.**

## HANNCHEN BARLEY

Hannchen is the earliest and best of the 2-rowed barleys, is drought resistant and a sure and heavy cropper. The seed stock we offer was grown from seed secured from the Oregon Agricultural College. We call special attention to the plumpness of the seed, thinness of the hull and the ease with which the beards break off. It frequently happens that these beards drop in the field before harvest. Although a Spring Barley the United States Department of Agriculture has successfully grown Hannchen Barley from fall seeding where the winters are mild.

**Price: 1b postpaid 15c. Write for prices in quantities.**

## BEARDLESS BARLEY

Straw is about the height of the Common Barley, but better, and will stand up on any land; our seed crops have averaged 65 bushels per acre in dry unfavorable seasons. Sow as early as you can; frost does not hurt it. Many farmers will not grow Barley on account of the long, harsh beards which are so disagreeable in threshing although it is a profitable crop. This is as nearly beardless as seems possible to obtain, as beardless barleys show a tendency to produce a small percentage of bearded heads; it is about as easy to grow and handle as oats, and is the most Popular Barley grown.

**Per lb postpaid 15c. Write for prices in quantities.**

## COMMON BARLEY

We always aim to have a nice, clean stock of good Seed Barley on hand at all times. This is the common 6-row bearded type.

**Per lb postpaid 15c. Write for prices in quantities.**



# FIELD CORN



**S**IXTY-THREE PER CENT of the feeding value of a matured corn plant is in the ear. Corn to mature properly must be adapted to the section where grown, requiring several seasons of intelligent care and selection.

**Our Oregon Grown Corn** being thoroughly acclimated will give splendid satisfaction under the conditions and for the purposes recommended—we have large stocks and can supply any amount at very reasonable prices.

**CULTURE**—Thorough preparation of the soil is necessary for best results, methods of culture being determined by the different conditions of soil, climate, moisture and previous crops. The ideal soil is a deep warm one with a little sand, well drained and with sufficient humus to hold the moisture.

Deep plowing is always necessary for best results, and the heavy soils on the West side of the Cascades will give best results from Fall plowing, repeating in the Spring before seeding time. A liberal amount of stable manure and thorough tillage will help offset the cold nights. For best results when planted for grain, plant in hills 42 inches apart, allowing two stalks to the hill. For fodder or silo, three stalks, if the ground is rich.

For East of the Cascade Mountains—quoting "Farmer Smith"—"Where rainfall exceeds 12 inches and Corn is to follow Wheat, roll the stubble with corrugated roller right after harvest; then after first heavy rains, disc crossways of the rolling. If open weather, plow or disc thirty days later, allowing to lay in the rough until Spring. Ten loads of stable manure put on during the Winter or Fall will prove helpful. In the Spring when ground can be worked, disc and harrow every two weeks until May 1st, then plow deep, discing every day's plowing and harrow, roll or clod-crush to a fine well-packed surface. List 6 inches deep in 42-inch rows, kernels 12 to 14 inches apart in the rows. If Lister is not available, plant at bottom of 6-inch furrow made with a stubble plow. Five days after planting, harrow with slanting spike tooth harrow, repeating every week until Corn is 4 to 6 inches high, then continue cultivating until in tassel."



## OREGON GROWN YELLOW DENT

By careful and continued selection this splendid corn has become acclimated and perfectly adapted to the short seasons of the Northwest and will mature fully every year if planted at a seasonable time. The table quoted from the New York Experiment Station report gives definitely the values of mature and immature corn, showing the loss when the crop is not ripened. (See page 46.)

**Oregon Grown Yellow Dent** makes a quick growth with abundant foliage, maturing early and gives a good grain yield and will make silage of the highest food content. Especially adapted to the Willamette Valley and irrigated valleys of the Pacific Northwest. **Price per lb 20c, 10 lbs \$1.65**

**Always remember** that corn increases in food value and digestibility as it reaches the ripe stage—while other forage crops become more difficult of digestion and lose much of their food value as they ripen.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## FIELD CORN—Continued

For single pounds by mail add 10c postage. Larger lots at parcel post rates  
All sorts of field corn 10c per package; prices per 100 pounds on request



### NORTHWESTERN DENT

This is a red corn with yellow dent or cap and in high altitudes and the Northern sections where seasons are short will often mature a crop when other varieties fail. Owing to its frost and drought resistance, its extreme earliness and rapid growth make it valuable for late planting and for replanting. Ears are 7 to 10 inches, closely filled; grows 7 to 8 feet high. Splendid for silage. We have secured acclimated seed grown from the original stock. **1 lb 20c, 10 lbs \$1.85**

### HARTMAN YELLOW DENT CORN

"Hartman" is now considered a standard Dent Corn for grain west of the Cascade Mountains, and is also good for silo. Cob is small, ears medium to large, stalk light, allowing close planting. **1 lb 20c, 10 lbs \$1.75**

### MINNESOTA KING (DENT)

Smallest cob and largest grain. The ears are uniformly well filled out. Golden-yellow and a good yielder, being a safe corn to plant west of the Cascades. **1 lb 15c, 10 lbs \$1.50**

### PRIDE OF THE NORTH YELLOW DENT

Pride of the North has long been the standard Corn recommended by the Agricultural Stations as the best Yellow Dent for Eastern Oregon, Washington and Idaho, and our Oregon grown seed has given splendid results whenever conditions have been at all favorable, maturing early and yielding heavily, the foliage being luxuriant and of medium height. "Pride of the North" is specially recommended for silo. **1 lb. 20c, 10 lbs \$1.75**



### MINNESOTA No. 13 YELLOW DENT

The earliest of the early Yellow Dent corns and reported to be the heaviest yielding, producing splendid large ears, closely filled from end to end with bright yellow kernels. Has rather a thick cob and the shelled grains have a tendency to irregularity. "Minnesota No. 13" will average 7 feet high and being a rapid, vigorous grower, with heavy foliage, makes a fine fodder corn, and is especially recommended for ensilage west of the Mountains. Will mature in 90 days under favorable conditions. **1 lb 20c, 10 lbs \$1.75**

### EARLY CANADA (FLINT)

An eight-rowed Yellow Flint Corn; early and very productive. **1 lb 20c, 10 lbs \$1.75**

### CHAMPION WHITE PEARL

A large, White Dent variety; very popular with our dairymen on account of the great amount of green feed it makes. **1 lb 20c, 10 lbs \$1.50**

### WHITE FLINT

This valuable variety is specially adapted to Northwestern conditions. It is earlier than the well-known "Eight-Row Canada," and is to be preferred on account of its color, productivity and very early ripening. **1 lb 20c, 10 lbs \$1.50**

### KING PHILIP

An early Red Flint Corn; well acclimated and well known. **1 lb 20c, 10 lbs \$1.75**

### WHITE RICE

Pop Corn. Best variety for popping corn. **For Seed per lb 25c. For Popping per lb 15c.**

## COMPARATIVE FOOD VALUE OF CORN

As an economic feed crop Corn is without a peer. Twenty to thirty tons of silage per acre are within the reach of every corn grower, who will plant good seed, fertilize wisely and cultivate diligently. Land that is producing three to four tons of hay will produce double this amount of feed planted to corn. Progressive farmers are realizing these facts and the corn acreage is increasing rapidly from year to year.

To realize the full value of a corn crop the whole plant must be utilized. The silo is the best storehouse for this crop. Corn cut when fully matured, but not over-ripe, and put in the silo saves the maximum amount of feed per acre. In sections of light rainfall after harvest time the corn may be cut and cured in the shock and fed dry as fodder. There is considerable loss from this practice, but yet the feed produced on an acre would much more than equal the hay produced.

Dry corn fodder can be run through the silage cutter and by applying water a fair grade of silage can be made.

### REPORT OF NEW YORK EXPERIMENT STATION—ONE ACRE OF CORN

	Weight of Total Crop	Water	Dry Matter	Starch
July 30 (fully tassled).....	9.0 tons	8.2 tons	.8 tons	122.2 lbs.
August 9 (fully silked).....	12.9 "	11.3 "	1.5 "	491.3 "
August 21 (kernels, watery to milk).....	16.3 "	14.0 "	2.3 "	706.7 "
September 7 (kernels glazing).....	16.1 "	12.3 "	3.6 "	1735.0 "
September 23 (ripe).....	14.2 "	10.2 "	4.0 "	2852.0 "

Other nutrients increase in amount in about the same proportion with the exception of protein, which reaches its maximum amount before maturity.

For silage cut when kernels are glazed and well dented at which time more than 50% of the feeding value is in the grain.

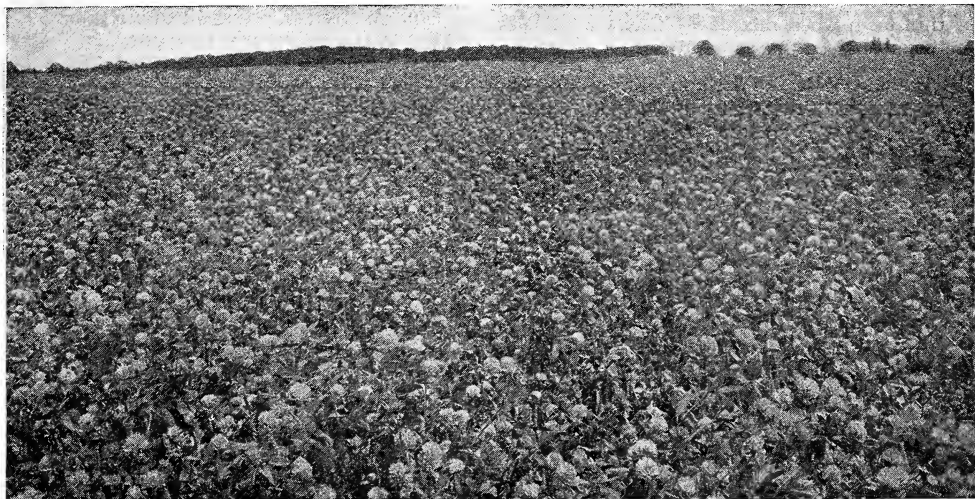
**The Acme Automatic one-hand Corn Planter** *Puts the right number of kernels just where you want them and at the proper depth. Works equally well with right or left hand.*

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## CLOVER AND ALFALFA

Write for prices on 100 lbs. or ton lots. They are always subject to market changes. See page 43  
Single pound prices postpaid; for larger lots add postage at zone rate.



*An Oregon Seed Field of Red Clover*

### Alfalfa or Lucerne Clover

**A**LFALFA should be cut for hay when the shoots of the next crop appear at the base of the plants. The hay is especially valuable for dairy cows. As soon as cut it immediately commences to grow, and during the hottest and driest weather, when other grasses are parched and withered, it remains fresh and green and grows as rapidly as ever. On the low lands it is not an unusual thing to harvest five or six crops of hay from the same field in one season without irrigation, and the same result is obtained on high, dry lands where irrigation is resorted to. It will not succeed on hard, clayey soils. Its roots, in seeking moisture, penetrate to incredible depths. The seed should be sown in the Spring, after danger from freezing the young plants is over, or in the Fall, early enough to give it a good stand before frost.

The domestic acclimated seed we offer can be depended upon to give splendid satisfaction.

#### Grimm Alfalfa

**Grimm Alfalfa** is the hardest Alfalfa known. In trials, at practically every Experiment Station in the West and Northwest, it has headed the list for vigor and hardiness.

**Grimm Alfalfa** has a branching fibrous root system which makes it better adapted for dry lands and irrigated lands of shallow depth of soil. Being an early vigorous grower it gives heavier cuttings and larger total yield in sections of short growing seasons.

The stock seed of Grimm Alfalfa dates back to 1857 and was brought from Europe by Grimm who settled in Minnesota. From this small start Grimm Alfalfa has been distributed and become established in sections where other Alfalfas would not thrive and it is from these plantings that the present seed supply is drawn. Being scarce and in big demand the price is high but the value of Grimm has been demonstrated beyond question and we recommend its trial.

Price per lb 85c postpaid. Write for prices in quantities.

#### DRY LAND ALFALFA

Dry Land Alfalfa will produce large, profitable crops of hay and excellent pasture on the high, dry lands of Eastern Oregon, Washington, Idaho and Utah, and is especially recommended for the hills and plateaux where irrigation is impossible. It comes from the **highest, driest alfalfa sections**, and is very superior seed.

Per lb postpaid 55c. Write for prices in quantities.

#### ALFALFA

Our domestic Alfalfa is acclimated, and will thrive splendidly where growing conditions are normal, including irrigated land. Where dry farming is practiced special Dry Land Alfalfa is recommended.

Price: 1 lb postpaid 55c. Write for prices in quantities.

**Mulford Cultures** For Alfalfas and Clovers *see page 48. Insures a stand, increases the yield, improves the soil*





## CLOVERS—Continued

### WHITE DUTCH CLOVER (*Trifolium repens*)—

Superior for pasture and unsurpassed for the production of honey. It also makes a beautiful lawn when mixed with Blue Grass. **Per lb postpaid, choice seed 80c; fancy 85c;**

**RED CLOVER** (*Trifolium pratense*)—The standard Clover for all purposes. Hardy and succeeds well on any good soil. Makes superior hay—especially mixed with Timothy—either for dairy cows or for general use. **Per lb postpaid 55c. Write for prices in quantities.**

**CRIMSON OR SCARLET CLOVER** (*Trifolium incarnatum*)—Highly recommended for pasture and fertilizing purposes. Is a thrifty annual, growing from twenty to thirty inches high. Germinates quickly, grows rapidly, and stools abundantly. Cut for hay when in full bloom. Planted in the Fall can be plowed under after blooming in the Spring and be followed with barley or potatoes. **Lb postpaid 40c. Write for prices in quantities.**

**ALSIKE OR SWEDISH CLOVER** (*Trifolium hybridum*)—A perfectly hardy perennial. Excellent for hay and pasture. Valuable for bees. Resists both drought and excessive moisture. The hay is preferred to that of Red Clover, being finer, brighter and not so dusty. **Per lb postpaid 55c. Write for prices in quantities.**

**MAMMOTH RED CLOVER**—Grows very large and is used almost exclusively for plowing under for manure. **Per lb postpaid 80c. Write for prices in quantities.**

**SWEET OR BOKARA CLOVER**—*Melilotus alba* (White Blossom)—In recent years has attracted quite a little attention as a hay crop and soil improver and support as a pasture crop. It does not produce seed the first year, but usually an abundant crop of seed and hay the second year. It is hardier than Alfalfa and more drouth-resistant and better for renovating the soil. Sweet Clover will thrive on most soils, either poor clay or sandy, but prefers a limestone soil. Where lime is deficient it should be added and good results will be obtained. Quite extensively grown on alkali soil. Sweet Clover is also recommended for bees. **Per lb postpaid 50c. Write for prices in quantities.**

*Melilotus indica* (Yellow Blossom) is the best legume on which to build up your soil during the rainy season for the summer crop to follow, particularly potatoes. It is the most vigorous soil enricher of all the clovers and will grow on soils that will not support an ordinary farm crop and is highly recommended for orchard soiling. **Per lb postpaid, 30c, unhulled 40c lb. Write for prices on larger lots.**

**ESPARSETTE OR SAINFOIN** (*Onobrychis gativa*)—A deep rooting, perennial legume, extensively cultivated in dry, calcareous soils too barren for Clover or Alfalfa. Sow 50 lbs per acre. **Prices on request.**

**Inoculate Your Alfalfa, Clovers, Cow Peas, Soy Beans, Vetches and all other legume crops with**

# Mulford Cultures

**FOR LEGUMES**

**Small Cost**

**Large Returns**

**Easy to Use**

**No Labor Expense**

Mulford Cultures are scientifically prepared and tested by experts, in the biological laboratories of H. K. Mulford Co., Philadelphia, U. S. A., with the same degree of care as Mulford Antitoxins, Serums, Vaccines, etc., which are standard all over the world.

Legumes offer the best-known means of maintaining soil fertility and rejuvenating over-cropped and worn-out fields. They add both humus and nitrogen to your soil and thus increase your yield of wheat, corn and other non-legume crops.

The U. S. Department of Agriculture and many State Agricultural Experiment Stations recommend inoculation of legumes with nitro-fixing bacteria to induce a prompt "catch" and increase your yield.

Mulford Cultures are easily applied to the seed before planting and contain pure, tested strains of active, vigorous nitrogen-fixing bacteria, for inoculating seeds of legumes or soil. Enormous numbers of these very valuable and desirable bacteria are thus available to you in every package of Mulford Culture and may readily be applied to your seed. The sealed bottle insures purity.

**PRICES:—Always specify on your order what crop you want to inoculate, as there is a different strain of bacteria for each legume.**

**ALFALFA, RED CLOVER, WHITE CLOVER, ALSIKE, VETCH, PEAS, BEANS, SWEETPEAS, ¼ acre 75c, 1 acre \$1.50, 5 acres \$5.00**

**Special small size for Sweet Peas, Garden Peas and Beans, 35c**

**➡ FULL INFORMATION and MULFORD BOOKLET ON REQUEST**

PORTLAND SEED CO.  
PHOTO.

*The beautiful lawn under the trees at Holladay Park, Portland, was grown from Diamond Grass Seeds.*

## DIAMOND GRASS SEED MIXTURES



**DIAMOND QUALITY GRASS SEEDS** are the choicest new crop seeds, re-cleaned and tested for purity and germination, and only those stocks that grade above the established standards are offered to our customers.

Our **Special Mixtures** have been carefully worked out by the tests and observations of practical experts familiar with the requirements and conditions to be met, and will give the best results possible to obtain for the uses to which they are recommended.

### "DIAMOND" FANCY LAWN MIXTURE

**T**O have a good lawn the soil must be fine and rich, and well leveled. Then the best seed obtainable should be used. Plant any time from September until late Spring, depending upon the weather and soil conditions. Raking in the seed is advisable, and rolling greatly improves the turf. In watering your lawn soak it deeply and not too often, as light watering every day brings the roots close to the surface, where they quickly burn or dry out. You must not expect to make a fine lawn with cheap seed. The best lawn grass mixture costs more at first than the poorer substitute, but will be found much cheaper and more satisfactory in the end. Our "Diamond Quality" Fancy Mixed Grass Seed is prepared from the choicest re-cleaned Grass Seeds that have been carefully selected for their fineness and deep rooting, close growing habits and seasonable qualities, producing an ideal dense, velvety turf of lasting quality that remains green throughout the year. *Sow one pound to 400 square feet, 10 to 15 pounds to a 50-foot lot.*

Growing tests have proved our "Diamond Quality" Lawn Grass to be superior to any other mixture for our Western soils and climate; it is also free from chaff and foul seeds, weighing 23 pounds to the measured bushel. This is a guarantee of clean, plump seeds, as cheap chaff seed is very light.

**Single lb. postpaid 50c. Write for prices in quantities**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



"DIAMOND  
QUALITY"

## GRASS SEED—Continued

Grass Seed Prices subject to change without notice. See note top of page 43

**SEASIDE LAWN MIXTURE**—A special mixture is required to meet the conditions on or near the coast, and this we call our "Seaside" Mixture. If your ground is very light or sandy, put on three or four inches of top soil to make a seed bed. After the grass is once up, the roots will penetrate the lower soil. Give plenty of water and an occasional dressing of our Lawn Fertilizer.

Single lb postpaid 55c; not prepaid 45c; 10 lbs \$4.30. Write for prices in quantities.

**FINE MIXED LAWN GRASS**—For use where a temporary lawn must be quickly prepared, and if kept closely cut will be lasting and have a handsome appearance. A good, clean mixture.  
1 lb postpaid 40c

Not prepaid, 1 lb 30c, 10 lbs \$2.90

**DIAMOND TENNIS COURT MIXTURE**—For those who prefer a grass court, our Tennis Court Mixture will give the best results possible, as it is made up of fine, close-growing, heavily-rooted grasses that make a dense and lasting turf.  
Single lb postpaid 65c  
Write for prices in quantities.

## SPECIAL PASTURE MIXTURES

**No. 1. FOR GOOD LOAMY SOIL**—A mixture of Grasses and Clovers, prepared especially for good, loamy soils, that will give satisfaction as a permanent pasture, or for mowing for mixed hay. For pasture, sow 20 pounds per acre.

Price postpaid 55c per lb. By freight or express 10 lbs 43c per lb. Write for prices in quantities.

**No. 2. FOR IRRIGATED LANDS**—Use grass pastures and avoid bloat from green Alfalfa—Sow 28 pounds per acre, preferably in early Spring. As soon as well established give water as needed. With proper attention a permanent pasture can be maintained.

Price lb 50c postpaid. Not prepaid, 10 lbs 38c per lb. Write for prices in quantities.

**No. 3 FOR LIGHT SANDY SOIL**—An extra fine mixture for sandy or light soils. This will make a good, strong turf, that under ordinary circumstances should last for many years. Sow 20 pounds per acre.

Price postpaid 55c per lb. By freight or express 10 lbs 43c per lb. Write for prices in quantities.

**No. 4. FOR DRY LAND**—Mixed especially for the regions between the Cascades and Rocky Mountains, and on good, common wheat land. Try this mixture, as we believe that it will give you best possible results. Sow 20 pounds per acre.

Price postpaid 55c per lb. By freight or express 10 lbs 43c per lb. Write for prices in quantities.

**STANDARD PASTURE MIXTURE**—For general use; gives splendid satisfaction in the logged-off and burned-over lands of Western Oregon and Washington; is composed of standard Pasture and Hay grasses that thrive in this section; a good clean mixture, conforming to the standards of the pure seed laws.  
Price 100 lbs \$14.00

**MIXTURES FOR BURNED-OVER LAND**—In grading and cleaning grasses and clovers, we frequently find combinations that are difficult of separation, and while the seeds are often of excellent germination and quality, they cannot profitably be separated and cleaned, so we blend them to produce pasture mixtures suitable for sowing on burns and logged-off land, which at the price are splendid values and very economical for such purposes.  
Price 100 lbs \$12.00

**No. 8. FOR ARID OR ALKALI LAND**—Particularly for arid alkali lands. This mixture is composed of varieties that have proven to be the best for the soils mentioned. Sow 20 pounds per acre.

Price postpaid 60c per lb. By freight or express 10 lbs 47c per lb. Write for prices in quantities.

**No. 10. HAY AND PASTURE MIXTURE FOR DRY HILL LAND**—Especially suited to the dry sections, such as parts of Southern Oregon, Eastern Oregon, Eastern Washington and Idaho. This mixture is made up of varieties that can endure a great change of temperature from heat to cold, and at the same time will make a splendid mixed hay.

Price postpaid 55c per lb. By freight or express 10 lbs 43c per lb. Write for prices in quantities.

**No. 11. FOR GRAZING PURPOSES**—This is a mixture of grasses only, being made up for the benefit of those who wish a mixture without Clover, and will make a fine permanent pasture, but is not intended for hay.

Price postpaid 50c per lb. By freight or express 10 lbs 37½c per lb. Write for prices in quantities.

**No. 12. FOR BURNED-OVER BOTTOM LAND, OR LAND INCLINED TO BE RATHER DAMP**—This is a mixture that will do well either for hay or for permanent pasture on land that is too wet for many of the grasses and clovers.

Price postpaid 40c per lb. By freight or express 10 lbs 29c per lb. Write for prices in quantities.

## DIAMOND LAWN FERTILIZER

Easily Applied, Has No Odor, and Gives Quick Results

Old Lawns require one to two ounces per square foot as a top dressing, applied early—December to March. This produces a vigorous early growth.

For New Lawns use 1 oz. to the square foot, worked into the soil before seeding. Repeat as a surface dressing when the grass shows a little growth.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## GRASS SEED—Continued

Grass Seed prices subject to change without notice. See page 43.  
Single pound prices postpaid, for larger lots add postage at zone rate.

**TIMOTHY**—(*Phleum pratense*)—This is the most valuable of all grasses for hay. Thrives best on moist, loamy soil. Sow early in the Spring or Fall. Sow 15 to 20 pounds per acre.

**Fancy, 1b 30c, postpaid**

**ITALIAN RYE**—(*Lolium italicum*)—A quick-growing grass, attaining a height of 2½ to 4 feet; very desirable for temporary meadows or pastures (will last from two to six years). Thrives best on soils that are slightly moist, and will even stand considerable overflow. Grows easily and bears an abundance of foliage that makes the best and sweetest hay imaginable. Sow 40 pounds per acre.

**Per 1b 30c postpaid**

**ENGLISH RYE GRASS**—(*Lolium perenne*)—A strong-growing, hardy perennial grass, noted for its nutritive qualities. It is equally valuable for both grazing and hay. Forty pounds per acre. **For Lawns** this is used and recommended by many gardeners. If sown thickly, it makes a fine lawn, and for large grounds and parks it is very successful. **Per 1b 30c postpaid**

**ORCHARD GRASS**—(*Dactylis glomerata*)—One of the most valuable of all the cultivated grasses, blooming with Red Clover, and making with it admirable hay. As a pasture grass it is more productive than any other, and does best under close feeding. Sow 28 pounds per acre.

**Fancy Eastern per 1b 40c postpaid.**

**RED TOP**—(*Agrostis vulgaris*)—A good perennial grass. Generally sown for permanent pastures. Does best on moist or even marshy land. If the ground is not overflow land it is advisable to mix it with Meadow Fescue, Orchard Grass or Alsike Clover. Sow 28 pounds per acre chaff seed; 14 pounds hulled.

**CHOICE UNHULLED per 1b 35c postpaid.**

**DIAMOND FANCY HULLED**—A very superior grade of Red Top that is free from chaff and light seed. **Per 1b 45c postpaid.**

**CANADIAN BLUE GRASS**—(*Poa compressa*)—Recommended in all pasture mixtures on dry soil; thrives well on clay or hard trodden and poor soil. Sow 28 pounds per acre.

**Per 1b 40c postpaid**

**CHEAT SEED**—(*Bromus secalinus*)—Cheat yields a good crop of hay, especially on low or moist soil and will stand considerable overflow without harm. It makes an excellent hay for cows or horses, but should be cut before it gets too ripe. Sow in the Fall or early Spring same as oats, and about 100 pounds per acre.

**Per 1b 15c postpaid**

**KENTUCKY BLUE GRASS**—(*Poa pratensis*)

—One of the best grasses for permanent pasture furnishing a constant supply of the most nutritious feed during the greater part of the year. Sow 28 pounds per acre. **For Lawns**—Blue Grass is used very extensively for lawns and is found in all lawn grass mixtures. Sow 1 lb. to 400 sq. ft. if used alone.

**Fancy, per 1b 50c, postpaid**

**MESQUITE**—(*Holcus lanatus*)—It is usually sown on virgin soil without cultivation, after the ground has been burned over. Sow about 35 pounds to the acre chaff seed; hulled 15 pounds per acre.

**FANCY HULLED SEED per 1b 35c postpaid.**

**CREEPING BENT GRASS**—(*Agrostis stolonifera*)—Well adapted for sandy pastures near the Coast, and good for pasture on low lands. If sown alone, use 25 pounds per acre. Excellent for lawns. Use 12 to 15 pounds per 50-foot lot.

**Per 1b 70c postpaid**

**RHODE ISLAND BENT**—(*Agrostis canina*)—Resembles Red Top. Makes a close sod; valuable for permanent pastures and meadows. Twenty-eight pounds per acre. For lawns use 12 to 15 pounds per 50-foot lot. Gives good results.

**Per 1b 60c postpaid**

**TALL MEADOW OAT GRASS**—(*Avena elatior*)—Often attains a height of three to four feet by the middle of June. Makes splendid hay and thrives on sandy loam, but makes its best growth where there is some clay. Can be fed as a pasture grass, and will generally bear cutting three times. For mixing with Perennial Rye and Alfalfa for sandy soils it is excellent. Sow about 30 to 40 pounds per acre alone or half that amount if mixed with the above varieties.

**Per 1b postpaid 55c**

**MEADOW FESCUE**—(*Festuca pratensis*)—Perennial; grows three to four feet high. Roots deep, thus resisting drouth. It succeeds on any ordinary soil; yields a heavy crop of superior hay; one of the best grasses for pastures, being valuable to mix with other kinds. Sown alone, use 40 pounds per acre.

**Per 1b 60c postpaid**

**HARD FESCUE**—(*Festuca duriuscula*)—Fine, rather dwarf, justly noted for its drouth resisting qualities. Valuable as a pasture for sheep. Sow 20 pounds per acre.

**Per 1b 50c postpaid**

**SWEET VERNAL**—(*Anthoxanthum odoratum*)—Valuable to put in pasture mixtures and lawn grass on account of its earliness and its delightful fragrance when in bloom. Thrives under all growing conditions but is only recommended for use in mixtures. If alone use 28 pounds per acre.

**ANNUAL per 1b 45c postpaid.**

**A Clipper Grain Cleaner  
will improve your seed**



## GRASS SEED—Continued

**BROMUS INERMIS—Russian Forage Grass**  
—Awnless Brome Grass—This Bromus, on account of its strong perennial character, and its unusual drouth-resisting powers, is the best grass we have for the semi-arid regions of the Northwest. Grows luxuriantly, is freely eaten dry or green by cattle and yields from 2 to 6 tons to the acre. Sow 25 to 30 pounds per acre. Spring or Fall.

Per lb, postpaid, 45c

**RED OR CREEPING FESCUE—Festuca rubra**—Forms a close turf and is valuable for lawn and golf mixtures; thrives in sandy soils and along the Coast. (14 lbs. to the bushel.)

Price per lb 65c postpaid, not prepaid  
10 lbs \$5.00.

**BERMUDA GRASS (Cynodon dactylon)**—Suitable only for climates where the Winters are not below the freezing point. It stands the hottest and driest season. Sow 6 lbs. per acre.

Per lb 85c postpaid, 10 lbs \$7.00 not prepaid.

**TALL FESCUE—(Festuca elatior)**—Succeeds best in moist alluvial and strong clayey soils; is very productive and lasting; valuable for permanent pasture, is relished by stock and on rich land makes fine hay—height 3 to 4 feet; weight 22 pounds per bushel.

Per lb 85c postp'd, not prep'd 10 lbs \$7.20

**ROUGH-STALKED MEADOW GRASS—(Poa trivialis)**—A most valuable grass which flourishes in moist, rich soils. Roots are perennial, but soft; foliage freezes down.

Per lb 85c postpaid

Write for prices on larger lots

**CRESTED DOG'S TAIL—(Cynosurus christatus)**—A perennial grass with short, narrow leaves; valuable for lawns or pastures on dry, light land; makes excellent sheep pasturage. Use 20 lbs. per acre if sown alone.

Per lb 60c postpaid; not prep'd 10 lbs \$4.50

**SHEEP'S FESCUE—(Festuca ovina)**—Grows freely in high, dry and open pastures. Its chief merit is for sheep pasture. Thirty-five pounds to the acre.

Per lb 50c postpaid

## MILLETS

Sow in April, May or June, 12 to 15 lbs. for seed, or 20 to 30 lbs. for hay per acre.

**GERMAN OR GOLDEN**—An improved variety, yielding a larger crop of seed than the Common Millet. It is also taller than the Common and yields a heavier crop of hay.

Single lb 20c postpaid. Write for prices in quantities

**HUNGARIAN**—A dwarf annual Millet. It is finer than the Common or German Millets, but produces a closer stand and yields almost as much per acre as the taller varieties. Superior for hay.

Single lb 20c postpaid. Write for prices in quantities

**BROOM CORN MILLET**—Is somewhat variable in character and is divided into several varieties, one of which is sometimes called Hog Millet, as the seed is often used to feed hogs. All of this class are better adapted to produce seed than for pasture.

Single lb 20c postpaid. Write for prices in quantities

**EARLY FORTUNE MILLET**—Has given astonishing yields of both seed and fodder. It is very early and is claimed to be rust-proof. The fodder can be fed to horses and other stock without injury, even after the seed has formed which cannot be done with safety with most of the millets. The seed is large and of a beautiful red color.

Single lb 20c postpaid. Write for prices in quantities

**NEW SIBERIAN**—New and wonderfully productive. Extremely hardy, and about two weeks earlier than the German Millet, growing four feet in height.

Single lb 20c postpaid. Write for prices in quantities

**COMMON**—A well-known variety growing from three to four feet high; has broad blades and strong stalks.

Single lb 20c postpaid. Write for prices in quantities

**SAVES SEED CAHOON SEEDER SAVES TIME**

THE STANDARD BROADCAST SEED SOWER

GIVES AN EVEN STAND AND WILL LAST A LIFETIME SEE PAGE 127



Millet

## RAPE

**DWARF ESSEX**—One of the best forage plants, producing immense quantities of green feed when grass and other crops are dried up. Highly recommended by Professor Shaw and other eminent authorities. Has yielded ten tons of green forage per acre with a food value double that of green clover. Excellent pasture for all stock, and fine green feed for chickens. Thrives on all soils and is ready for use in six to eight weeks from time of sowing. Also valuable for plowing under. Sow same as turnips from May until September, or sow with grain. Use four pounds per acre in drills, eight pounds broadcast. Lb 25c postpaid. Not prepaid, 10 lbs \$1.50. Write for prices in quantities

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

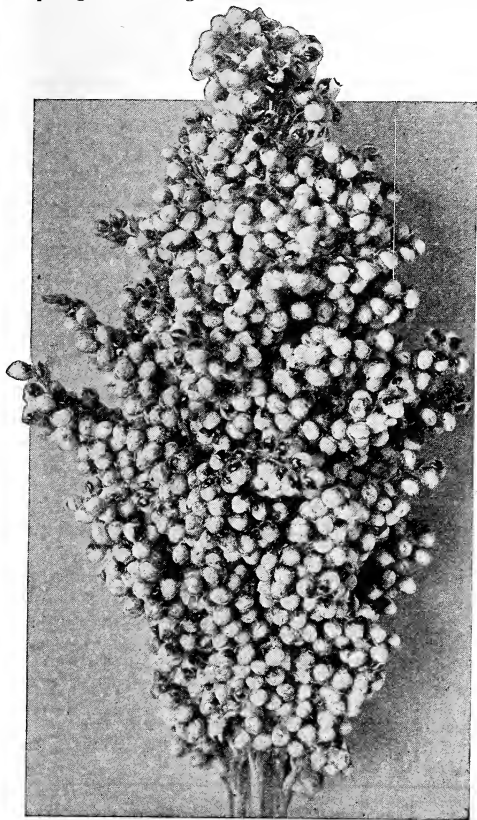




## THE NON-SACCHARINE SORGHUMS

Wonderfully productive and of great value as a forage, ensilage or grain crop in dry sections

**T**HE varieties here offered represent the best selections and are highly recommended. They are best drilled in—using 3 to 8 lbs. per acre, depending on variety and condition. Plant in the late Spring after the ground is warm. Cultivate often, throwing earth toward the plants.



*Head of Feterita*

**FETERITA**—This is the most recent of the non-saccharine sorghums to command the attention of "dry farmers" on account of its wonderful yield and drouth resistant qualities, being 20 to 40 days earlier than Kaffir corn, and has given immense crops in the driest seasons without having received a drop of rain. Makes splendid fodder as well as giving a good grain yield. Try Feterita. Per lb postpaid 25c. Write for prices in quantities.

### Sunflower

**MAMMOTH RUSSIAN**—The largest and most productive variety. It makes one of the very best of foods for poultry; a great egg producer.

Per ¼ lb 10c lb 30c postpaid; 10 lbs not prepaid \$2.00. Write for prices in quantities. See Page 41.

**MILO MAIZE**—This is one of the sorghums similar to Kaffir Corn. Grows erect, with thick, close-jointed stalk. Height 4 to 7 feet. Heads are very large, giving a heavy grain yield; is drought resistant, and succeeds on alkali soil. Plant late when ground is warm, 3 to 6 pounds per acre.

Per lb postpaid 20c. Write for prices in quantities.

**EGYPTIAN CORN**—Also Called Jerusalem

**Corn or Dhoura**—One of the non-saccharine sorghums, requiring the same growing conditions. Succeeds well in dry sections. Produces small heads on side shoots up to eight on a stalk, the seed is larger than Kaffir corn. Yield is heavy. Makes fine chicken feed. Plant three pounds per acre.

**WHITE** per lb postpaid 25c. Write for prices in quantities.

**SUDAN GRASS**—The great drouth resisting forage crop—Sudan Grass was introduced

from Egypt in 1909 by the U. S. Dept. of Agriculture, and has given great promise of becoming a valuable addition to our forage grasses, especially in some sections. It is believed to be the original type of our cultivated sorghums. All stock relish it, and no harmful effects have followed where it has been fed. Under favorable conditions, it grows from 7 to 9 feet, having luxuriant foliage and small stems. While thriving under dry conditions, excessive moisture will not harm it but is easily damaged by frost. Where growing conditions are favorable the stubble makes excellent green pasture. In the South three or four cuttings are not uncommon.

Price: 1 lb 40c postpaid; not prep'd 10 lbs \$2.80. Write for prices in quantities.

**BROOM CORN**—Dwarf Evergreen—Grows from 4 to 5 feet high and makes straw of finest quality, being almost, if not entirely, free from crooked brush. Per lb postpaid 25c. Write for prices in quantities.

*If you milk 20 cows or more a*


**Sharples Mechanical Milker**

*will pay for itself in a few months and leave you a handsome profit. Write for information.*

### Sugar Cane or Sorghum

**EARLY AMBER**—A valuable crop to grow for fodder or ensilage, as it furnishes an immense tonnage to the acre. When fed down while young it makes a rapid second growth.

Price postpaid per lb 25c; not prepaid 10 lbs \$1.50.

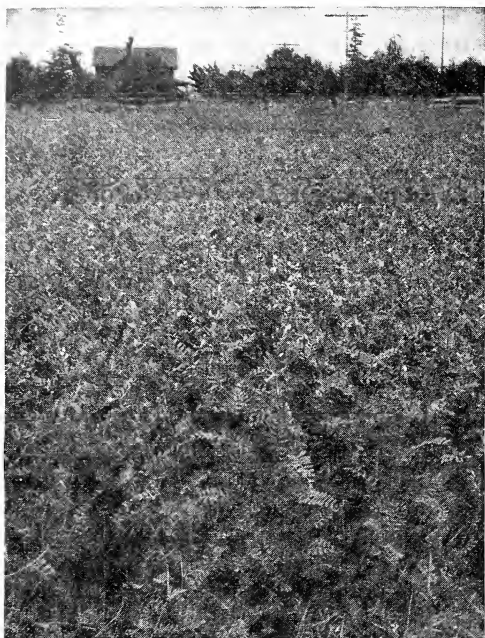
 A "CLIPPER" Grain Cleaner improves the quality and increases the yield of any grain crop. When you buy a fanning mill be sure you get a "CLIPPER." Special catalog FREE.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

## FARM AND FIELD SEEDS—Continued

Prices Subject to Change Without Notice. See Page 43  
Single Pound Prices Postpaid. Write for prices in quantities


### Vetches or Tares



*Vetches—Oregon's Greatest Forage Plant*

**PURPLE VETCH** (*Vicia atropurpurea*) may be considered as a new vetch, it having been grown only to a limited extent, mainly in Oregon and California. It is a distinctly new variety and takes its name largely from the color of the blossom, which is a deep purple. It is being used by a great many orchardists for plowing under. It can be grown as cheaply as Common Vetch and should be planted in the fall on well drained fertile soil, 60 pounds to the acre. It may be used as a hay or silage crop. The plant has been found to be free from attacks of the aphids.

**45c per lb postpaid. Write for prices in quantities.**

 Large buyers write for quotations as the market is constantly changing.

**COMMON VETCH**—(*Vicia sativa*)—One of the best forage plants that can be grown on the Pacific Coast. Often called Fall Vetches. It furnishes an abundance of excellent feed, either green or cut and cured for hay. The seed should be mixed with an equal weight of some variety of wheat, oats or rye having a stiff straw, and the mixture sown at the rate of two bushels per acre. Vetches weigh 70 pounds per bushel. Sow in the Fall or early Spring.

**Per lb postpaid 20c. Write for prices in quantities.**

#### **WHITE SPRING OR PEARL VETCH**—

White Pearl Vetch is coming into great favor and is being extensively used for Spring planting as splendid results can be had from sowings made as late as April. The yield being fully equal in every way to that obtainable from common vetch (*vicia-sativa*) and of fully as great feeding value.

The advantage of later Spring planting makes White Pearl Vetch specially desirable and more sure to give returns than common Vetch under many planting conditions, and it has given better results on the light sandy cut-over lands of Washington and Idaho.

**Per lb postpaid 35c. Write for prices in quantities.**

#### **SAND, or Winter Vetches**—(*Vicia villosa*)—

This variety thrives on poor, arid, sandy soils. It is sown either in the Fall or early Spring, and is generally mixed with rye, which serves to support the plants. It grows to a height of three or four feet, and can be cut twice; first, as soon as the bloom appears, and afterward for seed. The plant is perfectly hardy and makes a very nutritious food. **Per lb postpaid 50c. Write for prices in quantities.**

### Lentils—French

The French Lentil excels as a food, is large, smooth, of a light even color and very attractive. It is also the heaviest yielding and most profitable variety to grow.

Lentils can be grown wherever peas or beans can be grown and are in big demand for export.

**Per lb postpaid 30c; F. O. B. Portland, 10 lbs \$1.90**

### Field Peas

Field Peas are a very profitable crop and are grown here very extensively. They can be grown alone or with oats. When planted with grain and cut green they make a large amount of very rich feed; also very valuable for enriching the soil if plowed under. The dry peas make excellent hog-feed and are quite fattening. Sow, if alone, 120 pounds to the acre; if with other grain, 60 pounds.

**WHITE CANADIAN**—A leading kind; seed almost white; a heavy cropper.

**Per lb postpaid 20c. Write for prices in quantities.**

**BLUE PRUSSIAN**—Very much like the above, except in color. This variety is largely sold dried for soup peas.

**Per lb postpaid 20c. Write for prices in quantities.**

**GARVANCER PEA** — (**Coffee Berry**) — A valuable leguminous forage plant for dry land.

Yields excellent crops of feed for stock.

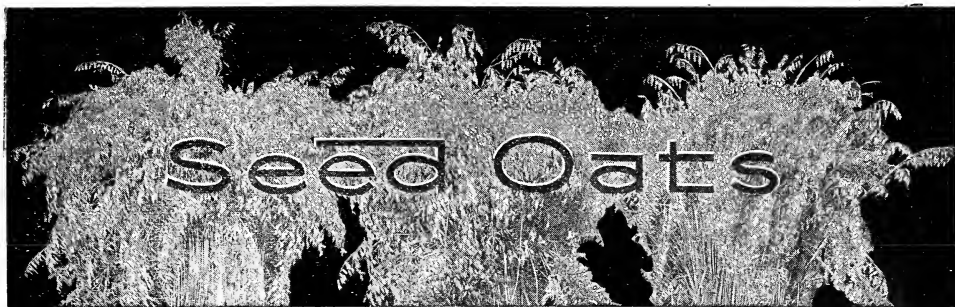
The dried peas when browned and ground are used as a coffee substitute.

**Per lb postpaid 30c. Write for prices in quantities.**

**SWISS (or China)** — A three-corned pea; excellent for cooking purposes. Vines small.

**Per lb postpaid 30c; 10 lbs not prepaid \$1.80.**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



**T**HE production of fine seed oats has always been one of our leading specialties and we consider them to be the most profitable and satisfactory grain crop, being indispensable to stock and dairymen, and their use as a food is constantly increasing.

Planted in season, oats rarely fail, are easily and cheaply grown, and the valuable new varieties which we offer will double the number of bushels per acre that you would get from common seed oats, which means half the cost of production, or twice the profit.

They will mature in July from Spring sowing, giving quick returns and leaving the soil in good condition for Fall planting.

We offer select, recleaned, well-matured seed oats of standard varieties, suitable for this section and our own introductions, "ECLIPSE" and "CLIMAX," the earliest and most vigorous, heaviest yielding oats ever grown anywhere.

## DIAMOND HULLESS OATS

Many Varieties of Hulless Oats have been tried by the Department of Agriculture, but very few yield well enough to pay the grower.

**HULLESS OATS** grow like ordinary oats with a branching head but thresh out clean, the grain being larger than the kernel of common oats and ready for rolling or milling just as they come from the cleaner, retaining all of their richness and flavor. You can make your own oatmeal on any gristmill and it will also cook quicker than other oatmeals and you will find it of superior excellence.

**DIAMOND HULLESS OATS** stool freely, stand up well and will thrive wherever oats can be grown. They are drouth resistant and ripen in about 100 days from seeding and have given 50 bushels per acre, weighing about 54 pounds to the measured bushel. Sow at the rate of 40 to 50 pounds to the acre.

Price 1b postpaid 25c. 10 lbs F. O. B. Portland \$1.30. Write for prices in quantities.

**"SENATOR"**—A New Garton Side Oat—Senator is highly recommended by the originators for its extreme earliness and great fertility—and is especially adapted to heavy land.

Seeded on good land this oat will do well, and where oats are liable to lodge **SENATOR** will stand up—has stiff straw—large grains and fine color.

For exhibitions the large grains and big heads of **SENATOR** make a fine showing.

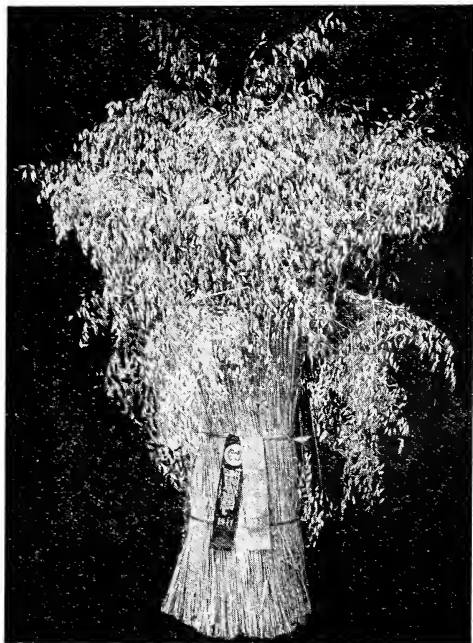
Postpaid 4 lbs 50c. By freight or express ½ bushel \$1.25. Write for prices in quantities.

### WHICH IS YOUR CHOICE ?

The difference in the cost of planting and harvesting an acre of common oats yielding 20 to 50 bushels, and of growing our record-breaking varieties that give from 80 to 135 bushels per acre is only the difference in cost of the seed (from 50c to \$1.00 per acre); in other words, *it costs about as much to plant, care for and harvest oats that yield only half a crop as it does to reap a real harvest.*



**THINK THIS OVER**



"CLIMAX" always a winner.

**OATS ARE A PROFITABLE CROP**, easily grown and seldom fail. Prices are high and indications are that they will remain high for some time. Their value as a food makes them in big demand and our select seed will yield you a profitable crop.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## ECLIPSE—White Side Oat

**"ECLIPSE"—Side Oat**—Is a re-selection from our famous "Shadeland Challenge," and is living up to its name by "eclipsing" all competitors, including the parent stock, being equally as vigorous and early and the massive heads are uniformly larger and filled with plump, heavy thin-hulled oats of finest milling quality.

The yield on light dry soil where our seed crops are grown runs from 75 to 85 bushels per acre and moist bottom land 125 bushels per acre is not uncommon.

**"ECLIPSE"** can be planted Fall or Spring, west of the mountains (Fall plantings should be made on well-drained soil), but in severe climates early Spring planting is best. Matures in 90 to 100 days, and can always be harvested before the Fall rains. Their beautiful bright color and plumpness commanding the top price in the market. Try this grand new side oat.

**Price 4 lbs 50c postpaid. Freight or express half bushel \$1.25. Write for prices in quantities.**

**DON'T FORGET** "Eclipse," "Climax" and "Senator" Oats have won firsts every year for over 15 years at the Oregon State Fair and at every North Pacific Land Show—an unbroken record.

**They will win for you and add to your profits.**

## CLIMAX—Tree Oat

**"CLIMAX"—Tree Oat**—For early Spring planting where seasons are short, in high, dry altitudes, and where quick growth and early maturity are demanded, "CLIMAX" will give you a bountiful harvest of the finest oats you ever saw. The white grains are uniformly large, plump and full with a very thin hull and are often borne 3 in a spikelet, which partly accounts for its wonderful yield.

In our trials "CLIMAX" has not been injured by severe early freezing and later drought, but has stood up, green and vigorous, yielding one hundred bushels per acre on hill land when oat crops throughout the same section were stunted and dried up.

If you live West of the Cascade Mountains you can plant **"Climax"** Fall or Spring, any time the ground is fit, but where the climate is severe, Spring plantings are best.

**Price postpaid 1 lb 20c, 4 lbs 50c. Freight or express, ½ bushel \$1.25. Write for prices in quantities.**

**To Know** that you are getting the genuine "CLIMAX" "ECLIPSE" Oats, always buy direct from our store. The vitality and true type are maintained by intelligent, scientific care and selection. Prices are so low that you cannot afford to risk any other seed oat.



*Sheaf of Prize Winning,  
"Eclipse" Oats*

## STANDARD SEED OATS

**Choice Recleaned Stock of the following varieties can always be supplied**

**WHITE SEED OATS**—We always try to have a selected re-cleaned stock of No. 1 White Seed Oats which we can supply at market prices. Write for samples and prices on the quantity you require, or send in your order. You will always get full value for money sent.

**Price postpaid 10 lbs 85c. Write for prices in quantities**

**GRAY WINTER**—This Oat is planted extensively throughout the Northwest as a Fall or Winter Oat. Is well and favorably known, being a good yielder, and the Oats are large and plump.

**Price postpaid 10 lbs. 85c. Write for prices in quantities.**

**SWEDISH RED**—A comparatively new tree Oat from Sweden having a soft hull and fine soft straw which is ideal for hay. This is the Oat grown so extensively in Northern California and along the Southern Oregon Coast. Sow in Fall or Winter. Red Oats always bring a good price in the market.

**Price postpaid 10 lbs 85c. Write for prices in quantities.**



# Seed Wheat

*A Seed Field of Early Baart that Passed Inspection for Certification Under the Supervision of the Oregon Agricultural College*

**P**RIOR to the adoption of the U. S. Grain Standards the Pacific Northwest did not use the grades established by the big eastern wheat centers, but since the U. S. Standards have become effective it is impossible to market mixed varieties of wheat or other grains at the best prices, and growers will find it necessary and profitable to plant only clean, pure seeds standard commercial varieties.

We have provided splendid stocks of the best sorts for this section and when ready to buy any variety of Seed Wheat, write us for quotations on quantity wanted or send in your order and we will give full value at lowest seed prices. The following are standard market varieties that are known as the most profitable and best yielding.

**Price 1 lb postpaid 15c, 10 lbs not postpaid 75c. Write for quantity prices.**

## **EARLY BAART—Bearded—Spring**

This splendid new Spring wheat is fully as early as Marquis, a better yielder and has a large white grain of finest milling quality. In the big wheat sections of Eastern Washington, Early Baart has matured three weeks ahead of Blue Stem, giving a bigger crop and its earliness insures protection against loss from the extreme heat and drouth occurring later. We offer a fine stock of certified seed from the field illustrated above.

## **BLUE STEM—Spring**

The best known and one of the most profitable Spring varieties for the Northwest. Heads are large and well-filled, stools freely. Grain very hard. Although a Spring variety, can be planted as a Fall Wheat in sections where Winters are mild. The Blue Stem of the Pacific Coast has a white grain and smooth chaff, quite unlike the Velvet Chaff and Red grains of the states East of the Rockies. Better results are had with this Wheat East of the Cascade Mountains, as it has a tendency to lodge in the moist sections on the Coast.

## **WHITE WINTER WHEAT**

Soft, white Winter Wheat. Beardless with white chaff. Kernels short and plump. A good milling wheat suited to well drained lands west of the Cascade Mountains. Often confused with Rink Wheat, but grain and head are both larger and has yielded more under same conditions.

## **RINK—Winter**

Similar to White Winter and often mistaken for it, but having a little shorter kernel and head. Yields well and has proven profitable on the well-drained rolling lands of the Willamette Valley.

## **MARQUIS—Spring**

Marquis Wheat was produced by a cross of Red Fife and Hard Calcutta. It differs from the parent stock, Red Fife, inasmuch as it has a heavier head, shorter straw, and the grain is a little darker, more flinty and very heavy, weighing about 65 pounds to the measured bushel. Heads are beardless, chaff smooth.

Marquis was awarded the prize at the New York Agricultural Show, as the best wheat grown on the continents of North or South America. It is early heavy yielding, and of splendid milling and baking quality.

## **LITTLE CLUB—Spring**

This well-known variety has stiff, straw, typical club head and does not shatter easily. Is a good grower and yields well. Our stock is exceptionally good, being selected from a heavy yielding strain.

## **FOISE—Winter**

Medium hard kernels. Beardless, chaff red. Heads slightly club shaped at tip. Specially adapted to the richer soils and prairie lands of the valleys and foothills west of the Cascades, and under favorable conditions yields heavily. Mills well.

## **TURKEY RED—Winter**

A medium hard red bearded variety; a heavy yielder and does not shatter out easily. Is very hardy, doing well in cold climates, but in moist sections has a tendency to lodge badly. The grain is hard and of good quality. A good Wheat for the dry sections East of the Cascades.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**





## SEED WHEAT—Continued



*Seed Fields of Blue Stem, Foise and Marquis*

### PROHI WHEAT—Winter

Soft, white winter. Beardless, white chaff, medium long kernel. Has a characteristic angular shape to the kernel. Is a good yielder, suited to the well drained soils west of the Cascades.

### FORTY FOLD—Winter

Forty Fold is referred to as "Gold Coin" in some sections. Is quite early, seed resembling Blue Stem. A favorite Winter variety in many localities, and in good demand for milling.

**For Prices see Page 57.**

### RED CHAFF—Winter

Beardless with red chaff and white kernels. Popular variety for western Oregon and Washington. This variety is often confused with Foise

### RED RUSSIAN—Winter

This is extensively grown in the Palouse country of Eastern Washington, where conditions are favorable. It grows vigorously, maturing late, and gives a heavy yield of both grain and foliage. It is a superior variety for choking out weeds, growing close and luxuriantly.

**TREAT YOUR SEED WHEAT**—The Formaldehyde treatment is recognized as the safest, most efficient method for prevention of smut and fungus in wheat. Use one pint to 40 gallons of water, preferably in an open vat where the grain can be immersed for 10 to 20 minutes. Be sure to skim off any floating smut balls, defective grains, etc. **Pt \$1.00, qt \$1.75, gal \$6.50. Cannot mail**

## SEED RYE

**Spring Rye** is a very important and profitable crop useful for replacing winter grain that has failed, or planted as a soiling or grain crop is always dependable. Should be sown at the same time as other Spring grains using 90 to 120 lbs. per acre.

**Winter Rye** is hardy and can be grown on a wide range of soils and makes splendid pasture for late Fall and early Spring after which it will develop a good grain crop or can be turned under for soiling.

**BEARDLESS SPRING RYE**—This splendid variety is extremely hardy, yields heavily and is preferred for stock feeding as the small fine beards (about an inch long) mostly drop off in handling. **Plant Fall or Spring.**

**Pound 15c postp'd, not prep'd 100 lbs \$5.50**

**SPRING RYE—Bearded**—We offer a fine stock of true Spring Rye that can be planted in this section any time after the ground can be worked. **Per lb 15c postp'd, not prep'd 100 lbs \$5.50. Write for prices in larger lots.**

**COMMON RYE**—Planted extensively in both Spring and Fall. We offer select, re-cleaned seed. **Per lb 15c postpaid, 100 lbs not prepaid \$4.50. Write for prices on larger lots.**

## SPELTZ or Emmer

**EMMER**—(*Triticum Dicoccum*)—Often Mistakenly Listed as Speltz—Similar to barley in growth, but produces two grains in a spikelet. A comparatively new and profitable crop yielding 50 to 100 bushels of grain, or four to six tons good hay per acre. Thrives well on poor soil, and dry weather seems not to affect it. After threshing, the straw makes good feed. Sow in Spring at rate of 75 to 100 pounds per acre. Emmer is often listed and referred to as "Speltz." We offer choice, re-cleaned seed of the true variety. **Price lb 15c postpaid, 100 lbs not prepaid \$4.75**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## "DIAMOND QUALITY" FLOWER SEEDS

**F**LOWERING plants are enjoyed by everyone, and cut flowers for home use or flowering plants for garden display can easily be grown; their care is a pleasant and healthful diversion, and for the small expense of time and money nothing will return so much pleasure and profit. If you have any planting problems, if you wish to produce special effects or work out color schemes, write us; we will be glad to assist you in every way possible, and our experience is at your service.

**CULTURE**—Cultural directions are printed on the back of nearly all packets. Flowers usually succeed best in a sandy loam, made rich with well-rotted manure, which should be made fine and thoroughly mixed with the soil. A soil thus prepared will remain moist and loose, so that flower seeds, which are generally small and delicate, will germinate and grow with vigor.

After the plants are up they require plenty of air and moisture, but they must not be too wet or they will "damp off." When large enough to transplant, put them in boxes or pots, giving them plenty of room, then when the ground is warm enough to put them outside, each plant will have a nice clump of roots. But if they are left in the seed and are close together, they will be weak and will not thrive.

A common mistake with flower, as well as other seeds, is planting too deep. A good rule is to plant the same depth as the thickness of the seed, and always press the soil down firmly, as this helps the seed to secure a firm hold and also retains the moisture.

A hotbed or cold frame is very convenient to start seeds in, as the temperature and moisture can be so regulated as to make their germination and rapid growth more certain. Most seeds do well if sown in boxes in a sunny window in the house.

Plants are usually ready to be transplanted when they have made a growth of two inches.

### INFORMATION THAT WILL AID IN SELECTION OF FLOWERS

**Annuals** bloom and ripen the first year and then they perish. Many annuals in warm climates, or when taken in, or protected during Winter, become perennial, with short lives.

**Hardy Annuals, Biennials and Perennials** can be sown in open ground early in the Spring if desired, and Hardy Biennials and Perennials do not require any protection in Winter.

**Perennials** flower several years in succession.

**Biennials** do not generally flower the first year, and are in their perfection the second year.

**Half-Hardy Annuals, Biennials and Perennials** should not be sown in open ground until settled warm weather, though they can be sown in the house, if desired, early, and afterwards transplanted. The two latter need to be protected in Winter, or carried over until Spring in cold frames or greenhouses.

*Flower Seeds that are easy to grow under the proper conditions of heat and moisture will often fail when these conditions cannot be controlled.*

The following seeds require special attention and equipment for best results:

Asparagus Plumosus  
Asparagus Sprengerii  
Begonia

Calceolaria  
Canna  
Cineraria

Cyclamen  
Heliotrope  
Gentiana

Smilax and Primroses except Evening Primrose, *Oenothera*

For the convenience of our customers we have grouped annuals together—separating them from the biennials and perennials, and have arranged a classified list giving color and habit of flowers listed, to aid in selections for special effects.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## "DIAMOND QUALITY" SWEET PEAS

Sweet Peas Head the list as our most beautiful and popular annual

**O**UR Famous "Diamond Quality" Sweet Peas are selected with critical care and we offer the best productions of the foremost growers, including the latest, most valuable novelties. We conduct careful trials, and, for quality and assortment of varieties, our stocks are unsurpassed. Although we list only those we consider best, we can supply any variety in commerce, and special orders will receive careful attention.

**CULTURE**—*First and most important, plant as early in the Spring as the conditions will permit. Seeds should be sown at the rate of one ounce to fifteen feet. Make a trench about three to four inches deep, planting the seeds in the bottom about two inches deep, pressing the soil down firmly. After the plants are well up, thin to four or five inches apart, and draw the soil around them until the trench is filled above the level. This gives a depth to the roots, preserving the moisture. Keep the ground well worked and water if needed, an occasional thorough soaking being better than a daily sprinkling. Keep the flowers cut close and a pruning of the tips of the vines will also aid in prolonging the season of bloom and insuring better flowers.*

### Mulford Cultures for Sweet Peas

*Makes larger Flowers and prolongs the blooming period. Easily applied before planting. 25c and 50c Postpaid*



## EARLY FLOWERING SWEET PEAS

### LONG-SEASON SPENCERS

A Cross of Early GRANDIFLORA and SPENCERS—of fixed color and type

Six weeks earlier than the Spencers, these new early-flowering varieties begin to bloom 100 days from planting in the open ground and flower through a long season—about 4 months.

New Early-Flowering Spencers are fixed as to type and color and should not be confused with the Christmas or Winter-Flowering varieties generally listed.

**EARLY LIBERTY**—New brilliant red—in the words of the introducer—"Nothing yet offered has approached this deep sun proof crimson or blood red—a most welcome addition to this class—be sure to try a packet of Liberty."

**Pkts each 15c**

**EARLY HEATHER BELL**—Very large graceful flower of finest Spencers form, borne 3 and 4 on long, strong stems. Color is a lovely, rich mauve—changing when cut to a beautiful mauve lavender. Valuable as a cut flower and profitable variety for florists.

**Pkts each 15c**

**EARLY SNOW FLAKE**—The best of the "Early White Seeded Spencers"—a beautiful white for commercial growers. The flowers are very large, beautifully waved and borne in greatest profusion on long stems.

**Pkts each 15c**

**EARLY MELODY**—A lovely rose pink on white having the dainty coloring and general appearance of "Countess Spencer," very floriferous, the blooms being mostly fours on fine stems.

**Pkts each 15c**

**EARLY SPRING MAID**—Color a light pink on a cream ground; a flower of great beauty and refinement; the large blossoms, 4 on a stem, make this a most attractive and desirable variety.

**Pkts each 15c**

**Remember--** Early plantings make finest flowers and more of them—they also have longer stems and bloom throughout a longer season

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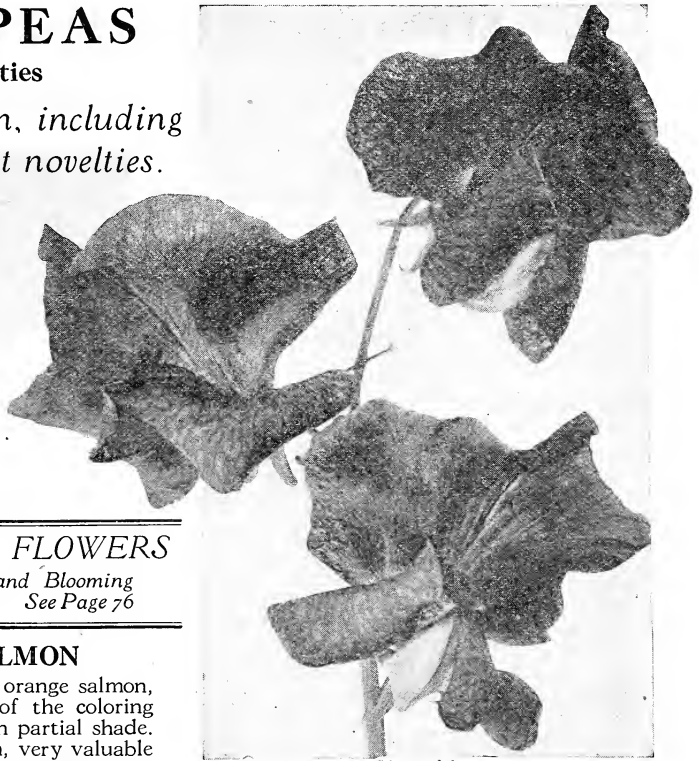
# SWEET PEAS

## Spencer Varieties

*A splendid collection, including the best of the recent novelties.*

### *The New "Spencer"*

type has lovely waved and fluted flowers of gigantic size, and in exquisite colorings, length of stem, and lasting qualities are much superior to the older types. For culture see page 60.



*King Manoel*

## For Classified List of FLOWERS

*Giving COLOR, HABIT and Blooming Period of the Flowers we list. See Page 76*

### ORANGE AND SALMON

**Barbara**—A beautiful shade of orange salmon, the brilliancy and delicacy of the coloring being enhanced by planting in partial shade. A true Spencer of lovely form, very valuable as a cut flower.

**Pkt 10c, oz 50c**

**Illuminator**—A brilliant orange-salmon ground, illuminated with bright cerise pink; a rare and wonderful color combination of great beauty. First class certificate.

**Pkt 10c oz 50c**

**Thomas Stevenson**—The most brilliant orange-scarlet, standard of deeper color than the wings. The flowers are of the finest Spencer form.

**Pkt 10c, oz 60c**

### RED AND MAROON

**Black Knight**—Rich dark wine red with velvety black sheen.

**Pkt 10c, oz 50c**

**Vermilion Brilliant**—An intense pure scarlet self-color of rare beauty and substance. Absolutely sun-proof. A stocky, vigorous grower, profuse bloomer, the long, strong stems carry four perfect flowers.

**Pkt 10c, oz 50c**

**King Edward**—Bright crimson scarlet, largest size, wavy standard; drooping wings, long stems; one of the finest reds.

**Pkt 10c, oz 50c**

**King Manoel**—Large, full, wavy blossoms of dark brilliant maroon. A bold and attractive flower of great beauty.

**Pkt 10c, oz 50c**

### LAVENDER AND BLUE

**Asta Ohn**—Lavender, suffused with mauve; of perfect form, largest size, 4 blossoms on long, strong stems; very vigorous.

**Pkt 10c, oz 50c**

**Flora Norton**—Bright blue with just a tinge of purple. Fine Spencer form.

**Pkt 10c, oz 50c**

**Royal Purple**—A rare new shade in Sweet Peas, rich purple, almost true royal, a color that does not exist in Grandiflora type.

**Pkt 10c, oz 50c**

**Florence Nightingale**—Immense, bold erect flowers of soft, rich lavender with very delicate suffusion of rose; a beautiful, self-colored flower, frilled and waved. Bears four blooms on extra long stems.

**Pkt 10c, oz 50c**

**Wedgewood**—A true self—being a beautiful Wedgewood blue; is larger, more vigorous, blooms more freely and is entirely free from purple shading.

**Pkt 10c, oz 50c**

### WHITE

**White Spencer**—A pure white flower of enormous size beautifully crinkled and fluted, of splendid substance.

**Pkt 10c, oz 50c**

**King White**—The newest and most magnificent white; of perfect Spencer type; the immense petals gracefully frilled—are a pure white of wonderful substance.

**Pkt 10c, oz 50c**



## SPENCER SWEET PEAS—Continued

### PINK AND CREAM

**Countess Spencer**—*Pink*—The first Sweet Pea of the Spencer type. Flowers extremely large, beautifully expanded, crumpled and waved. Color silvery white, suffused and tinted with soft shell pink, deeper at the outer edges.

Pkt 10c, oz 50c

**"Margaret Atlee"**—The most perfect of the Duplex type yet produced. Color is a warm salmon pink suffused over a cream ground. The cream deepens into a bright buff at base of standard and wings. Flowers are of very large size and are borne almost uniformly four on a stem.

Pkt 10c, oz 50c

**Mrs. Routzahn**—Color, soft straw tinted with blush pink, shading to rose and apricot at edges, with distinct rose margin; of immense size; one of finest Spencers.

Pkt 10c, oz 50c

**Primrose Spencer**—Color, a true primrose. Very vigorous, free-flowering, excels in beauty of form, length of stem and keeping qualities.

Pkt 10c, oz 50c

### VARIEGATED

**Dainty**—A pure, glistening white with distinct margining of bright rose-pink; comes four blossoms on long stems. Dainty is all its name implies and is the best picotee edge yet produced; very large and wavy.

Pkt 10c, oz 50c

**America**—The largest and finest of its class. Pure satiny white, striped and splashed brilliant crimson; 4 flowers of perfect form borne on long stems.

Pkt 10c, oz 50c

*Margaret Atlee  
Duplex Type*



**Senator**—A combination of deep claret and chocolate, striped and flaked on a light heliotrope ground. The coloring, though dark, is brilliant and attractive.

Pkt 10c, oz 50c

## SWEET PEAS IN MIXTURE

### SUPERB SPENCERS

**Superb Mixture**—*True Spencers Only*—A splendid mixture, carefully proportioned and blended to produce pleasing and harmonious combinations of color. **These are not seedlings, but carefully selected named varieties that retain all their purity and brilliance of color.**

Pkt 10c, oz 35c, ¼ lb \$1.00, lb \$3.00

### DIAMOND

**Diamond Mixture**—The most perfect blend of the finest named varieties it is possible to produce. This mixture contains many famous novelties the best of Grandifloras, also standard Spencer types, and will delight the most critical.

Sold in 1-oz sealed pkts only at 15c each, 2 for 25c, 12 for \$1.25, not sold in bulk.

### GRANDIFLORA MIXED

These old-time favorites while not as large as Spencers are very free flowering and bloom through a long season, making a splendid display. Our mixture is made up of select named varieties in the finest colors and shades.

Pkt 10c, oz 20c, ¼ lb 50c, lb \$1.50

We import *HYACINTHS, TULIPS, NARCISSI* and other *HOLLAND BULBS* for **FALL PLANTING**—Direct from the foremost Holland Growers. For complete list see our Nursery Catalog ready in September. Mailed free on request.

For Perennial Peas, see Perennial Flower Seeds

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG





## ANNUAL FLOWER SEEDS

And Those Generally Used as Such

**C**HARMING effects for every planting purpose can be had at very little expense by the proper planting of Annual Flowers, Vines and Foliage Plant. For classified list showing what is best for various purposes, see page 79.

Annuals bloom the first year, and many of our most popular flowers come in this class—under favorable conditions a few varieties will continue to live longer than one season, but as a rule they perish, and in planting for permanent effects the perennial plants are generally selected, the annuals being used for the first one or two seasons until the perennials become established.

### ASTERS—Oregon Grown Seed

Asters grow to perfection in our mild, cool climate and splendid strains of the best-known sorts have been developed by careful selection. As Fall bloomers for garden or cut flowers, asters are most satisfactory, and the varieties we offer being acclimated can be depended on for best results, rivaling the chrysanthemum in size and beauty. Asters require a rich, moist soil. Seed should be sown inside in March, and plants transplanted to the open ground when the weather is settled.

**"CREGO GIANT" ASTER**—The "Giant Crego" is distinct in every way, and its magnificent flowers, often 6 inches in diameter, have rare beauty of form and brilliant coloring, are very vigorous and free flowering.

**White, Shell Pink, Rose, Purple, Lavender**  
Pkt 15c,  $\frac{1}{8}$  oz 75c

**PACIFIC BEAUTY**—A rich true lavender, with big fluffy blooms on strong stems; free bloomer and great keeping qualities. Pkt 15c

**GIANT CRIMSON**—A new velvety crimson of branching habit, upright grower. Excellent for garden decoration and cutting. Shows up well under artificial light. Pkt 10c

**ASTER-MUM**—A selection from "Giant Comet." Of immense size, resembling chrysanthemums in form, hence the name "Aster-mum." Plants are about two feet high with good stems. A little earlier than "Crego." Three colors. **White, Rose, Purple.**

Pkt 10c; three, one of each color, 25c

**QUEEN OF THE MARKET**—Best early Aster, of graceful spreading habit.

**Light Pink White, Dark Blue, Light Blue, Mixed.**

Pkt 10c,  $\frac{1}{8}$  oz 50c

**"MIKADO" OR ROCHESTER**—A favorite with florists. Has very long, narrow petals, toward the center they cross and recross in splendid confusion, strong branching habit. **Lavender-Pink.**

Pkt 10c,  $\frac{1}{8}$  oz 50c

**SEMPLER'S LATE BRANCHING**—Flowers large, beautiful, double and borne on long stems.

**White, Rose, Shell Pink, Lavender, Purple, Mixed.**

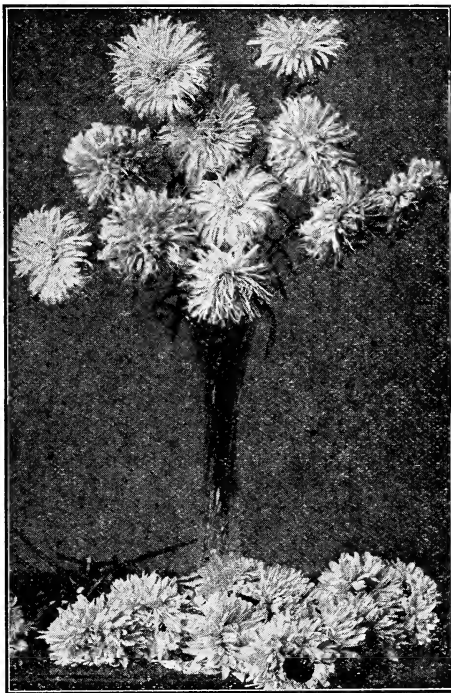
Pkt 10c,  $\frac{1}{8}$  oz 75c

**LAVENDER GEM**—An exquisite shade of true lavender, of the comet type; free flowering, erect habit.

Pkt 10c,  $\frac{1}{8}$  oz 60c

**DAYBREAK**—Flowers are full, large and round, borne freely on long stems. Color a dainty shell pink. Very early. Height 18 inches.

Pkt 10c,  $\frac{1}{8}$  oz 50c



**PURITY**—Same as "Daybreak," excepting color, which is a pure, glistening white.

Pkt 10c,  $\frac{1}{8}$  oz 50c

**GIANT COMET**—Flowers large and beautiful; petals long and twisted.

**Rose, Crimson, Dark Blue, Light Blue, White, Mixed.**

Pkt 10c,  $\frac{1}{8}$  oz 50c

### ANNUAL BEDDING PLANTS

We have for early delivery fine large plants that can be set as soon as weather permits and with little care will bloom freely throughout the season.

Annual bedding plants are so inexpensive and satisfactory that they should be planted extensively for cut flowers in the home as well as for garden effects. They also make splendid displays in tubs and porch boxes.

### ASTER PLANTS

*In season we offer fine large plants of all Standard Varieties. These are well rooted and sure to give good results. See Plant Dept*

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## Annual Flower Seeds—Continued

### ACROCLINIUM—*Everlasting*

Grows about 15 inches high, bearing white or rosy pink flowers, when cut in bud state, can be dried and used for winter bouquets. Sow seeds early in sheltered location and transplant to permanent bed. **Pkt 5c, oz 75c**

### AGERATUM

**Mexicanum Nanum**—Adapted for borders and bedding; covered with feathery blossoms all Summer; sow seed in early Spring in boxes to transplant or sow out of doors and thin to 4 to 6 inches. Shading from dark blue to white. 1 to 1½ feet tall. **Dark Blue, White or Mixed. Pkt 5c, ¼ oz 25c**

### ALYSSUM

A dainty little white flower. Fine for borders, edging and rockwork. In borders, sow thickly so as to form masses. Varies in height from 4 to 10 inches. Sow in Spring or late August.

**Maritimum**—Sweet. **Pkt 5c, oz 35c**

**Maritimum**—Little Gem. **Pkt 10c, oz 75c**

**Procumbens**—Of trailing habit; profuse bloomer. **Pkt 10c, oz 75c**

### AMARANTHUS

Handsome foliage and interesting flowers, making a striking effect in borders and beds. Thrives in hot, sunny situation with rather poor soil. 2 to 5 ft. Sow early and transplant. **Salicifolius**—Willow leaved. **Pkt 10c, oz \$1.50**

**Caudatus**—Graceful, drooping flowers. **Pkt 5c, oz 75c**

**Tri-color, or Joseph's Coat**—Foliage scarlet, yellow and green. **Pkt 5c, oz 75c**

### BACHELOR'S BUTTON

**Centaurea Cyanus** or *Corn Flower*—A hardy annual, easily cultivated. Produces handsome flowers of a great variety of rich colors borne on tall, branching stems, with but little foliage. Striking and handsome. Sow seed in open ground early and transplant. 1 to 2 feet tall.

**Cyanus**—Fine single mixed. **Pkt 5c, oz 25c**

**Cyanus**—Fine double mixed. **Pkt 10c, oz 75c**

**Cyanus**—Single blue. **Pkt 5c, oz 50c**

**Cyanus**—Double blue. **Pkt 10c, oz 75c**

**Cyanus**—Double pink. **Pkt 10c, oz \$2.00**

### BALLOON VINE

A rapid growing climber. Blossoms very small and white. Light, graceful foliage. Bears curiously inflated seed pods. Sow seed where it is to remain. Succeeds best in light warm soil. 10 to 12 feet tall. **Pkt 5c, oz 40c**

### BALSAM—"Lady Slipper"

Handsome plants, producing masses of various colored flowers, half hardy. Curious seed pods which, when ripe, will explode when touched. If sown in May should bloom from July until frost. 1 to 1½ feet tall.

**Double Camellia Flowered**—Mixed. **Pkt 10c, ¼ oz 25c**

### CATCHFLY—*Silene*

A hardy annual, yielding for a long time a profusion of umbels of bright colored flowers in various shades of pink. Fine for border or rockery. The plant is covered with glutinous moisture, to which flies adhere; hence its name. Sow in boxes and transplant as soon as large enough to handle. Grows 4 to 6 inches tall. **Fine Mixed**—All Colors. **Pkt 5c, oz 35c**

### CALLIOPSIS

Very showy and attractive, always covered with a mass of bright flowers ranging in color through yellow, crimson and maroon. Sow where plants are to remain, thinning to 6 to 12 inches. In sunny situation plants will bloom all Summer. Fine cut flowers. 1 to 3 feet tall.

**Crimson King. Pkt 10c, oz 50c**

**Golden Wave (Drummondii) Pkt 5c, oz 50c**

**Coronata Maxima. Pkt 10c, oz 50c**

**Tall Single Mixed. Pkt 5c, oz 40c**

**Tall Double Mixed. Pkt 5c, oz 40c**

**Dwarf Mixed. Pkt 5c, oz 50c**

### CANDYTUFT—*Iberis*

One of the most highly prized annuals for beds or masses, very useful for cutting. For early blooms sow indoors, transplanting to garden when 2 to 3 inches high. Sowings every two weeks in the open will flower from July until frost. Grows 1 to 1½ feet tall.

**Giant Hyacinth Flowered**—White. **Pkt 10c, oz 75c**

**Carmine, Crimson, Lavender, Mixed. Pkt 5c, oz 40c**

### CASTOR BEAN—*Ricinus*

Tropical appearing foliage plant. Highly ornamental, of stately growth and having large leaves of bronze or glossy green. Should not be planted until soil is warm. Grows 3 to 5 feet tall.

**Sanguineus**—Brilliant scarlet stems and fruit. **Pkt 5c, oz 25c**

**Zanzibariensis**—Surpasses all in size and beauty of colors. **Mixed. Pkt 5c, oz 20c**

**Mixed**—Best varieties. **Pkt 5c, oz 20c**

### CALENDULA—*Pot Marigold*

The well-known Pot Marigold, valued by Europeans for flavoring soups and stews. Flowers are dried in Fall and kept in paper bags for use. In mild climates this plant will bloom nearly all the year around. Colors range through yellow, orange and gold. 1 to 2 feet tall. Plant in early Spring in open ground.

**Orange King**—Double. **Pkt 10c, oz 35c**

**Meteor**—Double. **Pkt 10c, oz 20c**

**Double Sulphur. Pkt 10c, oz 20c**

**Double Mixed. Pkt 5c, oz 20c**

### CELOSIA CRISTATA—*Cockscomb*

Very attractive and showy, producing massive heads of deeply colored flowers. Colors, red, purple and yellow. Sow very thinly in boxes indoors, transplanting to other boxes, or thumbpots until little combs appear. If wanted for border, may be set with combs in a straight line. Grows 9 to 12 inches tall.

**Cockscomb Tall. Pkt 10c, oz \$1.00**

**Dwarf Empress. Pkt 10c, oz \$3.00**

**Dwarf Fine Mixed. Pkt 10c, oz \$3.00**

### CELOSIA PLUMOSA—(Feathered)

Large plummy heads of crimson or yellow. For pots or open ground. Keeps well when cut. Grows 1 to 2 feet tall.

**Thompsoni Magnifica**—Yellow. **Pkt 10c, oz \$1.50**

**Thompsoni Magnifica**—Crimson. **Pkt 10c, oz \$1.50**

**Childsii**—(Chinese Wool Flower) **Pkt 15c**



## Annual Flower Seeds—Continued

### COSMOS

Seed sown indoors in March or April and transplanted to open ground will produce plants three to five feet high by September, which thereafter and until November will yield hundreds of blossoms three inches across; they are of various shades, from pure white to purplish crimson. Both foliage and flowers are unsurpassed for bouquets and vases. (Plants in season.)

**Lady Lenox**—A magnificent type of extraordinary size and rare beauty. Color a delightful pink. Beautiful under artificial light.

Pkt 10c, oz 50c

**Lady Lenox**—White.

Pkt 10c, oz 50c

**Klondyke**—Blossoms very early and continuously; three to four feet high; flowers large, golden yellow and borne on long stems.

Pkt 10c, oz \$1.50

**Mammoth Flowering**—Mixed.

Pkt 10c, oz 75c

**Marguerite**—New and odd; very pretty, petals fringed. Mixed.

Pkt 10c, oz \$1.50

**New Double Mixed.**

Pkt 10c

**Double Crested Mixed.**

Pkt 10c

### CHRYSANTHEMUM

Very showy, effective and desirable as Summer flowering plants. Hardy annuals. Sow seeds in flats very early in Spring and transplant to garden when soil is warm. Grows 1 to 2 feet.

**Inodorum**—*Bridal Robe*.

Pkt 10c

**Carinatum**—*Northern Star*—Giant white, black center.

Pkt 10c, oz 50c

**Carinatum**—Single finest mixed.

Pkt 10c, oz 40c

**Corinarium**—Double finest mixed.

Pkt 10c, oz 40c

### DELPHINIUM

See Larkspurs.

### CLEOME

A splendid plant for large beds or shrubbery border. Of branching habit, each branch producing a large head of attractive flowers. Sow seed in open ground as soon as weather is warm and settled. Height 3½ feet.

**Gigantea Red.**

Pkt 10c

**Gigantea Alba**—Pure white.

Pkt 10c

### CENTAUREA IMPERIALIS

Sweet scented flowers on long, strong stems. Will last several days when cut. Colors, white, pink, rose and purple. Sow where plants are to remain, thinning to 12 inches apart. Grows 1 to 3 feet tall.

**White, Purple or Rose.**

Pkt 10c, oz \$1.50

**Suaveolens.**

Pkt 10c, oz \$1.25

**Moschata**—Mixed.

Pkt 10c, oz \$1.25

**Candidissima.**

Pkt 10c, oz \$3.00

### CLARKIA

Hardy annual of easy growth, produces a fine effect massed in beds, bright and attractive. Fine for cutting. Does well in shade. Sow early in open ground and thin to 6 inches. Grows 1 to 2 feet tall.

**Elegans**—*Salmon Queen*—Double.

Pkt 10c, oz \$3.00

**Elegans**—*Scarlet Queen*—Double.

Pkt 10c, oz \$3.00

**Elegans**—White—Double.

Pkt 10c, oz 75c

**Elegans**—Double mixed. Pkt 10c, oz 75c

### COBAEA SCANDENS—(Plants in Season)

A handsome, rapid-growing, climbing plant, having large, bell-shaped flowers, beautiful foliage and peculiarly delicate and curious tendrils. Seeds should be planted on edge in shallow boxes of soft soil, covering with glass until seedlings appear. Transplant to permanent location about May. Grows to a height of 12 to 15 feet.

**Purple.**

Pkt 10c, oz \$1.25

**White.**

Pkt 10c, oz \$1.25

### CYPRESS VINE—*Ipomoea Quamoclit*

Climber with rapid growth. Has delicate fern-like foliage and great numbers of star-shaped blossoms with long tubes. Soak seeds over night in warm water, then sow where vine is to grow. Does best in warm, sunny location. Grows 10 to 15 feet.

**White, Scarlet or Mixed.** Pkt 10c, oz \$1.25

### ECHINOCYSTIS, LOBATA—*Wild Cucumber*

Clusters of small white blossoms followed by curious, spiny, globular fruits. A rapid-growing climber. Very good for covering old fences or trellises. Seed should be planted in Fall where vine is to remain, as it is difficult to germinate if sown in Spring. Height 10 to 12 feet. Hardy annual.

Pkt 5c, oz 35c

### EUPHORBIA

Branching, bushy plants with smooth, glossy leaves of various colors. Suitable for beds or borders. Sow seeds in open ground, transplanting when few inches high. Give plenty of room. Good foliage plant. Height 2 to 3 feet.

**Heterophylla**—Painted leaf. Annual poinsettia. 3 feet.

Pkt 10c, oz \$2.25

### ESCHSCHOLTZIA—*California Poppy*

These are generally classed and grown as annuals, but are true, hardy perennials. see description under perennials.

### FOUR O'CLOCK—*Mirabilis Jalapa*

Marvel of Peru—Easy culture, bearing a profusion of bright flowers of various shades. Flowers open at four o'clock, close in morning. Sow seeds early in the open and transplant. Should be 15 to 18 inches apart. Grows 2 to 3 feet high.

**Choice Mixed.**

Pkt 5c, oz 35c

### GAILLARDIA—*Blanket Flower*

Very showy garden plant, with brilliant flowers; free blooming from early Summer until Autumn; especially effective in masses. Sow seeds early where plants are to bloom. Thin to 12 inches. Colors crimson, brown and orange. Splendid cut flower. Height 1 to 2 feet.

**Picta Lorenziana**—Double; finest mixed; annual.

Pkt 5c, oz \$1.00

### GODETIA

Profuse and constant bloomers, compact and bushy in growth. Colors, rose, crimson, white and pink. Sow seeds indoors in boxes and transplant. Succeeds in poor soil. Height 1 foot.

**Semi-dwarf.** Fine Mixed. Pkt 10c, oz \$1.00

**Gloriosa.** Dark Red. Pkt 10c, oz \$1.25

**Duchess of Albany.** White. Pkt 10c, oz 75c



## Annual Flower Seeds—Continued

### GOURDS

Good climber. For covering verandas and trellis work, rapid growth, bearing fruits of curious shapes. Plant after soil is warm. Height 10 to 20 feet.

**Calabash.** Pkt 5c, oz 35c

**Large Varieties Mixed.** Pkt 5c, oz 35c

**Small Varieties Mixed.** Pkt 5c, oz 35c

### GYPHOPHILA—(Annual)

**Grandiflora Elegans**—Easily raised from seed. Grows from 18 to 24 inches, bearing beautiful, large, star-shaped flowers in great profusion. First sowings should be made in flats very early and transplanted out when 2 to 3 inches high. Make later sowings in open ground for continuous supply.

**White.** Pkt 5c, oz 35c

### HELICHRYSUM—Straw Flower

**Monstrosum**—Everlasting. One of the best for Winter bouquets. Hardy annual. Colors, red, yellow and white. Effective for bedding. Sow seeds in open and transplant or thin to 12 inches. Height 2 to 2½ feet.

**Double Mixed.** Pkt 10c, oz \$1.00

### HYACINTH BEAN—*Dolichos Lablab*

Rapid growing, ornamental, climbing annual, bearing clusters of beautiful purple and white flowers, followed by highly ornamental seed pods. Sow seeds early where vine is to remain. Height 10 to 12 feet. **Mixed.** Pkt 10c, oz 20c

### HOLLYHOCKS—New Annual

**Hybrida Semperflorens**—This splendid variety will bloom in August, from Spring planting, continuing until frost. This is a great advantage, as other varieties do not bloom until the second year. Try them.

**Finest New Single Mixed.** Pkt 10c, oz \$1.00

### HUNNEMANNIA—Giant Yellow Tulip Poppy or Bush Eschscholtzia

**Fumariaefolia**—Best of the poppy family for cutting. Seed sown early in May will, by the middle of July, produce plants covered with their large, buttercup yellow, poppy-like blossoms, and never out of flower until a hard frost. Height 2 to 3 feet.

Pkt 5c, oz 75c

### ICE PLANT

**Mesembrianthemum Crystallinum**—Pretty Summer trailing annual for vases and rock work; leaves covered with ice-like drops. Sow seeds early in boxes and plant out when soil is warm. Height ½ to 1 foot.

Pkt 5c, oz \$1.00

### KOCHIA TRICHOPHYLLA—Fire Bush or Summer Cypress

Forms symmetrical highly decorative bushes, foliage green, turning to fiery red in Autumn. Sow seeds in open and thin to 15 inches. Valuable for Summer hedges. Height 1 to 2 feet.

Pkt 5c, oz 25c

### LINUM—Crimson Flax

**Annual**—Beautiful and effective; hardy, about 18 inches high; covered with bright scarlet flowers.

Pkt 5c, oz 50c

### LARKSPUR—Annual

The annual Larkspurs are quite hardy and bloom in the later Summer months, furnishing flowers of striking beauty in form and color. Tall varieties are suitable for shrubberies and borders, while the dwarf sorts produce charming effects in beds. Height 1 to 2 feet.

**Dwarf Rocket**—Finest colors. Double mixed. Hardy annual. Pkt 10c, oz 50c

**Tall Double Stock Flowered**—Lustrous Carmine, Dark Blue, Rose, White or Finest mixed. Pkt 10c, oz \$1.00

### LOBELIA

**Delicate**, low-growing, annual plants of the greatest value for borders, ribbons, edgings, rock work and hanging baskets. Sow seeds very thinly in boxes, covering with glass until seedlings are through surface. Plant out when 1 inch high. Height 6 to 8 inches.

**Hybrid Hamburgia**—Light blue with white eye, long, drooping flower stalks; fine for hanging baskets or boxes; grows rapidly.

Pkt 10c, oz \$8.00

**Gracilis**—Blue, trailing; beautiful for baskets.

Pkt 5c, oz \$2.00

**Crystal Palace Compacta**—Dwarf flowers, very fine and rich, bright blue; finest for bedding and edging.

Pkt 10c, oz \$4.00

**Crystal Palace Speciosa**—Dark Blue.

Pkt 10c, oz \$4.00

### MARIGOLD—*Tagetes*

A hardy plant in dwarf and tall varieties; foliage bright green and deeply cut. Flowers are various shades of yellow and brown. Sow seeds early in flats and transplant to garden when 3 to 4 inches tall. For specimen plants soil should be light, rich and deeply spaded. Height 1 to 2½ feet.

**African.** Tall or Dwarf, Double Mixed.

Pkt 5c, oz 75c

**French.** Dwarf or Tall Double Mixed.

Pkt 5c, oz 75c

**French.** Tall Striped Double. Extra select.

Pkt 10c, oz \$1.25

**Golden Ball.** New Dwarf. Very compact.

Pkt 10c, oz 75c

**Legion d'Honneur.** Dwarf Single.

Pkt 10c, oz 75c

### MIGNONETTE—*Reseda*

A quick-growing fragrant annual. Produces the largest and finest spikes of blossoms during cool, moist weather of early Spring and late Fall months, but will flower freely throughout the Summer from seed sown early in Spring. A second planting should be made about the first of August to furnish large, fine spikes of flowers during the cool Fall months. Sow seeds where plants are to remain, as seedlings are difficult to transplant successfully. Thin to 6 to 12 inches. Height 1 foot.

**Odorata Grandiflora**—Large, well-formed, fragrant flowers.

Pkt 10c, oz 50c

**Machet**—White. White with reddish tinge. Best white, dwarf variety.

Pkt 10c, oz \$1.00

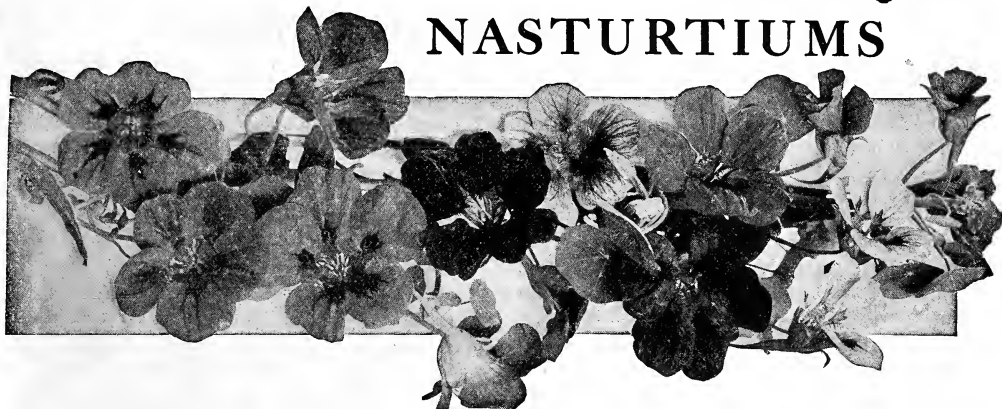
**Golden Queen**—Dense, dwarf growth; flower golden yellow; very fragrant.

Pkt 5c, oz 50c

**Machet**—Red, Victoria. Dwarf, compact, flowers red; fine.

Pkt 5c, oz 60c

# NASTURTIUMS



**N**ASTURTIUMS are hardy annuals, of easy culture and flower best where the soil is not too rich. The new hybrids include various shades of rose, salmon, bright red, pale yellow, etc., either self-colored or spotted, mottled, striped and margined.

For covering trellises, fences, arbors, piazzas, trailing from vases, over rockwork, for bedding, etc., nothing can equal the gorgeous effect produced by their marvelous wealth of bloom, borne in uninterrupted splendor from early Summer until cut down by frost. The seeds, picked green and pickled in vinegar have a piquant, appetizing flavor that is a valuable addition to relishes or pickles.

## Tall Varieties

**CHAMELEON**—Variable flowers marked and blotched in many brilliant colors.

**KING THEODORE**—Large, velvety crimson flowers, very attractive dark green leaves.

**MOONLIGHT-PEARL**—Soft primrose.

**DUNNETT'S ORANGE**—Large, bright, pure orange flowers.

**PRINCE HENRY**—Fine lemon yellow, clear carmine blotches.

**SALMON QUEEN**—Extra large light salmon, suffused rosy salmon.

**RUBY**—Beautiful ruby red. Fine open flowers.

## NAMED VARIETIES

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c, lb \$2.00

**MIXTURE**—Standard tall varieties.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c, lb \$1.50

## Ivy Leaved

**TALL MIXED**—Climbing habit with pointed leaves of rich ivy green veined white, resembling English Ivy. Flowers have narrow petals and are quite distinct and pleasing.

Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 75c

**DWARF MIXED.** Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 75c

## MORNING GLORY

The tall varieties are popular, well known, rapid growing climbers of the easiest cultivation, attaining a height of 10 to 12 feet. Very fine for covering arbors, trellises, porches, etc. The Minor, or Dwarf varieties flower very freely and do not require support. Plant seeds early where plant is to remain.

**Convolvulus Major**—Tall, choice single, mixed, all colors. Pkt 5c, oz 25c

**Double Mixed**—Tall. Pkt 5c, oz 50c

**Convolvulus Minor**—Dwarf mixed. Pkt 5c, oz 25c

**Imperial Japanese Fringed**—These have very large fringed flowers in a great variety of the most exquisite colorings; handsome, variegated foliage. Mixed. Pkt 5c, oz 25c

## Dwarf Varieties

**CHAMELEON**—Variable colorings in bronze, crimson and yellow, rich markings.

**CLOTH OF GOLD**—Brilliant scarlet, golden yellow leaves.

**EMPRESS OF INDIA**—Intense scarlet, purplish green leaves.

**PRINCE HENRY**—Lemon yellow, with carmine blotches.

**VESUVIUS**—A rich salmon orange, dark foliage.

## NAMED VARIETIES

Pkt 5c, oz 20c,  $\frac{1}{4}$  lb 60c

**MIXTURE**—Standard varieties.

Pkt 5c, oz 15c,  $\frac{1}{4}$  lb 45c

## Variegated

**TALL MIXED**—Foliage beautifully marked and marbled yellow and cream on the green ground, some leaves appearing almost white. Flowers come in all colors and markings.

Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 85c

**DWARF MIXED.** Pkt 10c, oz 25c,  $\frac{1}{4}$  lb 85c

## MIMOSA—Sensitive Plant

**Pudica**—A good foliage plant. Very curious and interesting; leaves close if touched or shaken; annual. Height 1 to  $1\frac{1}{2}$  feet.

Pkt 10c, oz \$1.25

## MOON FLOWER—*Ipomoea Mexicana Grandiflora*

Rapid growing climber belonging to the "Morning Glory" family. At night and on cloudy days vine is covered with fragrant white flowers 4 to 5 inches in diameter. Seeds must be soaked then planted where vine is to remain, thinning to 12 inches. Height 10 to 12 feet.

Pkt 10c, oz \$1.00





## GIANT FLOWERING PANSIES

**F**OR years local experts have grown our Giant Pansies and co-operated in securing the finest strains from the world's most celebrated growers. These have been carefully re-selected and bred up to their present surpassing excellence, and for giant size, substance, form and coloring we have never seen Pansies to compare with them. Named varieties and special strains are grown separately and the seed collected by hand and carefully blended into what we believe to be the finest mixture ever offered.

**ADONIS**—A distinct and beautiful shade of light blue with white center and dark blotch, most pleasing and attractive. **Pkt 10c**

**GOLDEN QUEEN**—A rich, pure yellow of the grandest form and size. A valuable addition to the yellows. **Pkt 10c**

**GIANT DARK BLUE**—A splendid blue black, very elegant, and of good substance. **Pkt 10c**

**GIANT STRIPED**—A superior strain of truly giant pansies, with the most beautiful striped markings in richest dark shades. **Pkt 10c**

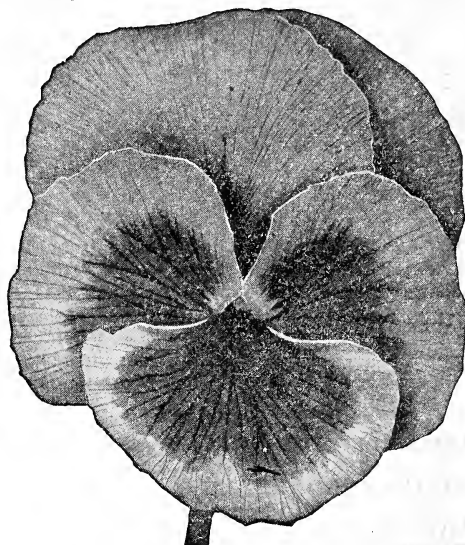
**VIOLET BLUE**—A new giant variety of a brilliant, dark indigo blue, with violet luster, each petal having a large, dark brown, veined blotch. Edges slightly ruffled. **Pkt 10c**

**KING OF THE BLACKS (Giant)**—Immense velvety black flowers of the finest quality; the largest and best black pansy. **Pkt 10c**

**MADAME PERRET**—A beautiful and distinct type with edges of petals frilled—bordered white, colors are dark wine—pink and red, beautifully veined. The earliest of the Giants, and has the sweetest perfume. **Pkt 15c**

**SNOW FLAKE**—A grand, pure white, of extra fine quality. **Pkt 10c**

**CORNFLOWER BLUE**—A dainty cornflower blue, large, good substance. **Pkt 10c**



**MASTERPIECE — GIANT RUFFLED**—The mammoth size, richness and beauty of colorings and frilled or ruffled character of the petals make "Masterpiece" one of the most distinct and interesting Pansies. **Pkt 25c**

**MASTODON PANSY SEED**—We offer a limited amount of this hand selected seed, **DIAMOND MIXED**, and four named varieties. **Per pkt 25c; Large Trade pkt \$1.00**

### Fancy Strains of Mixed Pansies

**TRIMARDEAU GIANTS**—Of remarkably large size and robust growth; very fine.

**Pkt 10c, ¼ oz 85c, oz \$3.00**

**FINE MIXED**—A fine assortment of colors.

**Pkt 10c, ¼ oz 25c**

**OREGON GIANT PANSIES—MIXED**—Our Oregon Giants are a selection of the finest strains and named varieties from the foremost American and foreign growers. This seed has been gathered by hand for several seasons from selected plants grown here in Oregon and will produce plants and flowers of unsurpassed quality in the most pleasing colors and shades.

**Pkt 25c**

### Mastodon Pansies in Bloom

From March until June we offer our famous "Mastodon" Pansy plants in full bloom. Put up one dozen in a basket. Mailing weight 4 lbs. **Price 60c to \$1.00 per basket, not prepaid.**



**SPECIAL**—Transplanted Seedling Plants just turning into buds can be furnished. Florists and gardeners should write for prices on these plants, as large orders can be quoted at very low prices.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

## Annual Flower Seeds—Continued

### NICOTIANA

A very showy plant, producing star-shaped flowers of delicious perfume. Taken up in the Fall, cut back and potted, will bloom freely all Winter. Half hardy annual; three feet high. Sow seeds in boxes indoors or in a sheltered situation in the open. Transplant when 2 inches high. For best results give plenty of room, very rich soil and full sunlight.

**Affinis**—White. Pkt 5c, oz 75c

**Hybrida**—Splendid mixed. Pkt 10c, oz 75c

**Sanderæ**—Resembles the "Affinis," but unlike that variety, does not close up in the daytime. The plants are covered with carmine-red, fragrant flowers. Pkt 10c, oz \$1.25

**Sylvestris**—Pure white, fragrant, drooping flowers; deep green foliage. Pkt 10c, oz 75c

### NIGELLA

**Love-in-a-Mist, or Devil-in-the-Bush**—Compact growing, free flowering plants with curious looking, showy flowers and finely cut foliage. Colors blue and white. Sow about April and thin to 8 to 10 inches. Height 1 to 2 feet. Hardy annuals.

**Mixed.** Pkt 5c, oz 40c

**Miss Jekyll**—Cornflower Blue. Pkt 10c, oz 75c

### OENOTHERA—Evening Primrose

Elegant for growing in an exposed position, in border or on rockery; constant bloomer all Summer. Shades of yellow. Sow seeds early in boxes, covering very lightly with fine soil firmly pressed down. Transplant seedlings to warm, sunny situation. Height 1 foot.

**Fine Mixed.** Pkt 10c, oz 60c

### PETUNIA—Hybrida

During the whole season it is covered with large, showy blossoms, which are always bright and fresh, in spite of heat and drought. The flowers are of an almost infinite variety of colors and markings, and quite as varied in form; large and small, fringed and plain, double and single. Hardy Annual. Sow seeds very thinly indoors under glass. Care should be taken to save the weaker seedlings as they produce the finest flowers. Transplant to garden when soil is warm. Height 1 to 1½ feet.

**Single Choicest Mixed.** Pkt 10c, ⅓ oz 50c

**Double Choicest Mixed.** Pkt 25c

**Double Fringed Mixed.** Pkt 25c

**Giants of California**—Choicest Mxd. Pkt 25c

**Fringed**—Finest Mixed. Pkt 25c

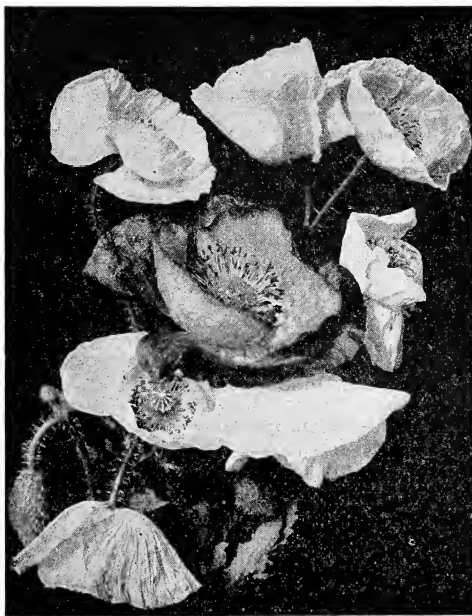
### PHLOX DRUMMONDI

Unrivalled for richness and beauty of color, ranging from white to the deepest scarlet and purple. For cutting, for bouquets or for bedding in masses they are unsurpassed. Hardy annual, one foot high. Sow as soon as soil is warm. Transplant about one foot apart.

**Large Flowering**—Scarlet, white or mixed.

**Dwarf Mixed** Pkt 10c, ¼ oz \$1.25

**Star Phlox**—(*Cuspidata*)—Flowers have a distinctive star-like appearance, with white margins, excellent for bouquets. Pkt 10c, ¼ oz 75c



*Shirley Poppies*

### PORTULACA—Rose Moss

Brilliant dwarf annuals, only six inches high, luxuriating in warm situations, and blooming profusely in early Summer to Autumn. For low beds and masses of color from Spring until frost, they are indispensable; colors range through innumerable shades of red, yellow, pink, white, striped, etc. Sow seeds indoors and transplant when soil is warm. Thrive best in hot and dry situation.

**Single Mixed.** Pkt 5c, ¼ oz 30c

**Double Mixed.** Pkt 10c, ⅓ oz 20c

### POPPY—Papaver

Magnificent, showy flowers borne separately on tall stalks in many bright and charming colors. Some are hardy annuals, others are perennials. Sow seeds very early where they are to remain. Barely cover seed with fine soil and press down firmly. Thin to one foot. If cut before fully open blossoms will last several days. Height 1 to 3 feet.

**Double Carnation Flowered**—Fringed; assorted colors. Mixed, Pkt 5c, oz 40c

**Shirley**—Finest Mixed. The range of color, extending from white through delicate shades of pink, rose and carmine, to the deepest crimson; fine for cutting. Pkt 5c, oz 40c

**Miss Sherwood**—Petals satiny white, shading to chamois rose. Pkt 5c, ⅓ oz 25c

**Double American Flag**—White bordered with scarlet. Pkt 5c, oz 50c

**King Edward**—Large flowers produced with great freedom. Deep scarlet, shaded crimson, red, with large black blotch. Height 2½ feet. Pkt 5c, ¼ oz 25c

**Glaucum**—(*Tulip Poppy*)—Brilliant scarlet flowers. 3 inches across. Pkt 10c, oz 75c



## Annual Flower Seeds—Continued

### **SALPIGLOSSIS—Painted Tongue**

Showy, funnel-shaped flowers of large size. Fine for beds. Half-hardy annuals. Sow seeds in boxes indoors or in a hotbed and transplant to one foot apart when soil is warm. Height 2 to 3 feet.

**Superbissima**—Finest mixed.

**Pkt 10c, ¼ oz 60c**

### **SALVIA—Flowering Sage**

Very ornamental; flowers borne in spikes of fiery red or crimson, and continue in bloom in open ground until after severe frosts. Start in heat and transplant into light soil, one to two feet apart. Excellent for bedding in masses or single planting. Hardy annuals.

**Salvia Zurich**—New Dwarf Early. The finest of all Dwarf Salvias. Very floriferous.

**Pkt 10c, ¼ oz \$1.00**

**Salvia Splendens**—Brilliant scarlet.

**Pkt 10c, ½ oz \$1.00**

**Bonfire**—(Clara Bedman)—One of the finest Salvias ever introduced; compact bush about two feet in height and diameter. Its erect spikes of flowers of brilliant scarlet stand clear above the dark green foliage and completely cover the plant.

**Pkt 10c, ¼ oz \$1.25**

### **SCHIZANTHUS—Butterfly Flower**

Beautifully fringed and delicately colored flowers so numerous as to hide the foliage. Splendid bedding plant. Seeds sown in open come into bloom in a few weeks. Fine pot plant for house in Winter. Height 1 to 2 feet.

**Mixed Colors.**

**Pkt 10c, ¼ oz 20c**

### **STOCKS—Double Ten Weeks**

These popular flowers are easily grown, and are so highly fragrant and of such beauty that they deserve a place in every garden. They are great improvements over the Gilliflowers of the olden times. Seeds should be sown under glass in a warm place, giving plenty of air after seedlings are up. Transplant when about 2 inches high. Winter stocks should be potted before frost. Height 1 to 1½ feet.

**Dwarf Large Flowering**—White, crimson rose, light blue, or mixed. **Pkt 15c, ¼ oz 60c**

**Virginian Stock**—A fine, early flowering plant. Hardy annual.

**Mixed.**

**Pkt 5c, ¼ oz 15c**

### **STOCKS—Winter or Brompton**

**Beauty of Nice**—Very large flowers of a delicate flesh pink. Extra fine. **Pkt 15c, ¼ oz 60c**

**Crimson King**—Rich blood crimson. **Pkt 15c**

**Mont Blanc**—Purest white. **Pkt 15c**

**Monte Carlo**—Canary yellow. **Pkt 15c**

**Queen Alexandra**—Soft rosy lilac. **Pkt 15c**

**Mixed.** **Pkt 15c, ¼ oz 60c**

### **STOCKS—Dresden Perpetual or Branching**

These 10 weeks everblooming are popularly called, "Cut and Come Again." Sown in March they flower profusely from July until frost; their best period being late Autumn. Very fragrant.

**Princess Alice**—White. **Pkt 15c, ¼ oz 75c**

**La France**—Blush pink. **Pkt 15c, ¼ oz 75c**

**Brilliant**—Blood red. **Pkt 15c, ¼ oz 75c**

**Sapphire**—Violet. **Pkt 15c, ¼ oz 75c**

**Creole**—Canary yellow. **Pkt 15c, ¼ oz 75c**

**May Queen**—Pale blue. **Pkt 15c, ¼ oz 75c**

### **SCABIOSA**

**Sweet Scabious, Or Mourning Bride**—Free flowering annuals; white, carmine, lilac, maroon, etc.; effective for garden decoration and valuable for cutting. Sow seeds in open as soon as soil is warm, thinning to 8 to 10 inches. Blooms from early July until frost. Height 2 to 2½ feet.

**Double—Mixed.**

**Pkt 5c, ¼ oz 25c**

### **SUNFLOWER—Helianthus**

Stately growing annuals with immense golden yellow flowers; effective for garden decoration. Height 6 to 8 feet.

**Dwarf Double**—Bright golden yellow flowers three inches across. **Pkt 5c, oz 50c**

**Globosus Fistulosus**—Saffron, very large, double and handsome. **Pkt 5c, oz 30c**

**Multiflora**—Beautiful, double yellow flowers. **Pkt 5c, oz 30c**

### **THUNBERGIA—Black Eyed Susan**

Rapid-growing annual climbers; splendid for trailing over trellises, fences, etc.; buff, white, orange, etc., four to six feet high. Grows readily from seed sown in the open.

**Mixed Colors.**

**Pkt 5c, ¼ oz 35c**

### **VERBENA**

Start seed in the house or under glass early in the Spring and transplant after three or four inches of growth. They flower in July and continue strong and healthy until frost. Height 8 to 12 inches.

**Mammoth Mixed**—Selected; extra large, fine. **Pkt 15c, ¼ oz 75c**

**Fine Mixed.** **Pkt 10c, ¼ oz 35c**

**Candidissima**—White. **Pkt 10c, ¼ oz 50c**

**Scarlet Defiance.** **Pkt 10c, ¼ oz 50c**

**Pink Shades.** **Pkt 10c, ¼ oz 75c**

**Blue Shades.** **Pkt 10c, ¼ oz 75c**

### **ZINNIA'S—New Dahlia Flowered**

This is a new and distinct race of Zinnia, which will greatly increase the popularity of this flower. The plants of this new race are very sturdy and produce many flowers with stout stems. In formation the broad petals are closely imbricated, sometimes seeming almost to be piled one upon the other. The flowers in full bloom often measure four inches in depth and six to eight inches in diameter. In general appearance the flowers compare favorably with the Show Dahlias. The flowering season lasts from July until the frost comes.

**Dahlia Flowered Mixed.** **Pkt 15c**

**Picotee Type.** **Pkt 15c**

**Victory Quilled.** **Pkt 15c**

### **ZINNIA ELEGANS—Youth and Old Age**

Half hardy annuals. Easily grown from seed sown in the open and thinned to one foot apart. For specimen plants, sow indoors early and transplant into rich soil. Wide range of colors. Height 1 to 2 feet.

**Dwarf Double Mixed.** **Pkt 10c, ¼ oz 30c**

**Curled and Crested Mixed.** **Pkt 10c, ¼ oz 30c**

**Double Giants**—Crimson, blush pink, golden yellow, scarlet, white and special mixed.

**Pkt 10c, oz \$1.25**



## HARDY PERENNIAL FLOWER SEEDS

### AGROSTEMMA

**Coronaria**—Foliage silvery white, blossoms crimson, resembling single pinks. Strikingly beautiful for beds, ribbons and borders. Seeds should be sown where plants are to remain and thinned to prevent crowding. Height two feet.

**Perennial.** Pkt 5c, oz \$1.00

### ALYSSUM

**Saxatile**—Showy, bright yellow flowers, blooms the first season if sown early indoors. Fine for borders. Height 6 to 12 inches.

Pkt 5c, ¼ oz 50c

### ANCHUSA—*Italica*

**Dropmore**—A splendid, free blooming plant for hardy borders, growing to a height of about 5 feet. Flowers are of a beautiful gentian-blue color. Seeds should be sown in sheltered place outdoors and transplanted when large enough to handle. Should be 2 to 3 feet apart.

Pkt 15c, oz \$2.00

### ANTIRRHINUM—*Snapdragon*

One of the most useful and showy of border plants of almost every color. Also makes splendid cut flowers. They have recently been much improved and are now really magnificent. Hardy perennial. For best results plant seeds indoors very early, planting out when about 3 inches high. Height 2 to 3 feet.

**Tall Giants**—White, yellow, scarlet.

Pkt 10c, ¼ oz 25c

**Queen Victoria**—Large; pure white. Tall.

Pkt 10c, ¼ oz 50c

**Tall, Finest Mixed.**

Pkt 10c, ¼ oz 25c

**Dwarf, Finest Mixed.**

Pkt 10c, ¼ oz 25c

### ARABIS—*Rock Cress*

One of the earliest and prettiest Spring flowers unequalled for rockeries or edging, withstands the drought, pure white flowers. Sow seeds in permanent location and thin to 6 inches. Height 6 to 8 inches.

**Alpina.**

Pkt 10c, ¼ oz 35c

### ASTERS—Hardy Perennial—*Michaelmas Daisy*

Handsome flowers of easy culture, appearing at a time when flowers are scarce; make attractive garden display as well as cut flowers. If seed is sown indoors very early and seedlings set in open as soon as large enough to handle, they will bloom the first season. Do best in a sunny location. Height 2 to 3 feet.

**Large Flowering Mixed.** Pkt. 10c. ¼ oz 50c

### CANTERBURY BELLS—*Campanula*

Very ornamental garden plants growing two and a half feet high, producing large, nodding and charming bell-shaped flowers of many exquisite shades; hardy biennial. Sow seeds in May. Keep seedlings well watered and transplant to permanent location in July or August. Give rich soil and plenty of room.

**Media Single**—Blue, rose, white or mixed.

Pkt 10c, ¼ oz 35c

**Calycanthema**—(*Cup and Saucer*)—White, pink, light blue or mixed. Pkt 10c, ¼ oz 75c

**Persicifolia**—Very fine, blooms in June. Blue or White. Pkt 15c, ¼ oz \$1.00

**Pyramidalis**—Stately, hardy plant for pot culture or garden. Blue or white. Pkt 10c, ¼ oz 75c

### CARNATION—*Dianthus Caryophyllus*

Carnations are Tender Perennials, being easily Winter killed. Splendid for cut flowers, deliciously fragrant. Colors pink, white and red. Sow seeds indoors in March. Transplant seedlings to other boxes when one inch high. Keep them growing well until soil is warm, then transfer to open garden. Height 1 to 1½ feet.

**Fine Plants in Season.** See Plant Dept. **Chabaud Everblooming**—Flowers in five to six months from sowing.

**Extra Choice Double Mixed.**

Pkt 15c

**Margaret Carnations**—Bloom in 4 months from seed.

**Finest Double Mixed.** Pkt 10c, ¼ oz 50c

**Giant or Malmaison**—Mixed. Pkt 15c

### CINERARIA

Magnificent and indispensable flowering plants for the window garden. The flowers of white, blue, violet and crimson shades, covering the plant with a sheet of bloom. Seeds very fine. Should be sown under glass in very fine soil. Pot off seedlings and shift from size to size as necessary.

**Hybrida**—Grandiflora, prize mixed. Extra choice. Pkt 50c

**Fine Mixed**

Pkt 15c

**Dusty Miller** (*Maritima Candidissima*)—Beautiful silvery-leaved border plant; half hardy perennial.

Pkt 10c, ¼ oz 35c

### COIX LACHRYMAE—*Job's Tears*

A broad-leaved, ornamental grass, having large, tear-shaped, hard, shining, pearl-gray seeds. Plant in prepared seed bed in open, transplant to permanent location when a few inches tall. 2 to 3 feet.

Pkt 5c, oz 25c



## Perennial Flower Seeds—Continued

### COLUMBINE—*Aquilegia*

Universal favorite for hardy borders and beds. Colors, white, blue, yellow and orange. Seeds sown very early in boxes indoors will usually produce blooming plants the first season, or they may be sown in open about the first of July and the young plants lightly protected the first Winter. Height 2 to 3 feet.

**Coerulea Hybrid**—Blue shades with white.

Pkt 10c,  $\frac{1}{8}$  oz 75c

**Chrysantha**—Golden yellow.

Pkt 10c,  $\frac{1}{8}$  oz 75c

**Chrysantha**—Grandiflora Alba. Beautiful, pure white. Good for forcing. Pkt 10c,  $\frac{1}{8}$  oz 75c

**Skinneri**—Orange, red. Splendid cut flower variety.

Pkt 10c,  $\frac{1}{8}$  oz 75c

### COREOPSIS

**Lanceolata**—Large, showy, bright yellow flowers produced in great abundance from June until frost; fine for cut flowers. Sow seeds indoors very early, transplanting to open when soil is warm. Height 1 to 2 feet.

Pkt 10c,  $\frac{1}{4}$  oz 25c

### DAISY—*Bellis Perennis*

Popular low-growing plant bearing beautiful flowers. Hardy perennial. Sow seeds in boxes about August and transplant to cold frame or some location where they may be protected the first Winter. Plant in permanent location early in Spring. Height six inches.

**Longfellow**—Double pink. Pkt 10c,  $\frac{1}{8}$  oz 40c

**Giant Double Monstrosa**—Red, white, pink or mixed.

Pkt 15c,  $\frac{1}{8}$  oz 60c

**Double Quilled**—Dark red. Pkt 15c,  $\frac{1}{8}$  oz \$1.

**Shasta Alaska**—Very hardy; profuse bloomers; flowers very large and borne on long stems, single; petals pure glistening white, dark center.

Pkt 15c

### DAHLIA

A magnificent, Fall-blooming tuberous-rooted plant. Sow seeds in boxes indoors very early, transplanting to open when danger from frost is past. Will bloom first season. Tubers of the best ones may be saved for following season. Height 3 to 6 feet. See Plant Department for Finest Named Dahlias.

**Double Mixed.** Pkt 10c,  $\frac{1}{4}$  oz 60c

**Single Mixed.** Pkt 10c,  $\frac{1}{4}$  oz 50c

**Cactus**—Flowers odd and fantastic in shape; all colors. Finest Mixed. Pkt 15c,  $\frac{1}{8}$  oz 40c

### DATURA

Large, strong-growing plants, trumpet-shaped flowers, white, sometimes tinted with blue. Roots can be preserved like Dahlias. Sow seeds in sheltered bed in open and transplant when 2 to 3 inches high. Give plenty of room and rich soil. Height 2 to 3 feet.

**Fastuosa Huberiana**—Double mixed.

Pkt 10c, oz \$1.00

**Cornucopia**—Very fragrant. Pkt 10c, oz \$1.

### DIGITALIS—*Fox Glove*

A tall growing biennial, with large leaves and spikes of vari-colored and spotted flowers. Fine for borders or background. Sow seeds in prepared seed bed in May. Keep seedlings well watered and transplant to permanent location in July or August. Give rich soil and plenty of room. Height 3 to 6 feet.

**Gloxiniflora**—Mixed. Pkt 10c,  $\frac{1}{4}$  oz 35c

### DELPHINIUM—*Larkspur*

Profuse blooming plants, their tall spikes of many colored flowers produce a striking effect when planted in groups. Sow seeds in boxes indoors in early Spring, transplanting to other flats when second leaf appears. When soil is warm, set in open ground 6 to 8 inches apart, resetting the next Spring, giving rich soil and plenty of room. As a cut flower this is one of the best. Height 3 to 6 feet. See Plant Dept. for Finest Named Varieties.

**Chinese Azureum**—Blue; fine for cutting.

Pkt 10c,  $\frac{1}{4}$  oz 50c

**Chinese Blue Butterfly.** Pkt 10c,  $\frac{1}{4}$  oz 50c

**Chinese Album White.** Pkt 10c,  $\frac{1}{4}$  oz 50c

**Belladonna**—Light blue. Pkt 15c,  $\frac{1}{4}$  oz \$1.75

**Formosum**—Dark blue. Pkt 10c,  $\frac{1}{4}$  oz \$1.00

**Cardinale**—Brilliant scarlet. Pkt 10c,  $\frac{1}{4}$  oz 75c

### FORGET-ME-NOT—*Myosotis*

Beautiful Spring favorites, of easy growth, bearing clusters of lovely, small blue flowers. They can be left in the open ground except in very cold latitudes. Fine for borders and shady situations. Sow seeds in box or prepared bed in the open. Transplant when two inches high. Height one foot.

**Alpestris**—Of trailing habit, with pretty flowers. Blue or mixed. Pkt 10c,  $\frac{1}{4}$  oz 35c

**Victoria**—Flowers large, bright azure blue; fine for borders and pots. Pkt 10c,  $\frac{1}{8}$  oz 50c

**Semperflorens**—Dwarf; continuous bloomer; blue. Pkt 10c,  $\frac{1}{8}$  oz 50c

### GAILLARDIA—*Blanket Flower*

Exceedingly beautiful, showy plants, one to two feet high. Grown in masses they are especially effective; large flowers, two or three inches across, unrivaled for cutting. Seeds sown very early and transplanted as soon as soil is warm will usually bloom in July. Colors range through crimson, orange and brown.

**Grandiflora Maxima**—Perennial. Mixed.

### GERANIUM

Pkt 10c,  $\frac{1}{4}$  oz 25c

A half-hardy perennial, easily and quickly grown from seed. Sow seeds thinly in boxes indoors, covering with glass until seedlings appear. When about one inch high transplant to small pots in rather poor soil firmly pressed down. Can later be re-potted in larger sizes or transferred to open garden. All colors. Height 1 to 2 feet.

**Zonale**—Extra choice, single mixed, the well-known bedding Geranium. Pkt 10c

**Lady Washington**—(*Pelargonium*)—Foliage green; flowers large. Finest mixed. Pkt 25c

### GEUM—*Chiloense*

Hardy, free-blooming plants. Fine for bouquets. Flowers crimson, double. Blooms all Summer. Height 8 to 12 inches. See Plant Department.

**Scarlet Semi-Double.**

Pkt 10c

### GYPHOPHILA—*Baby's Breath*

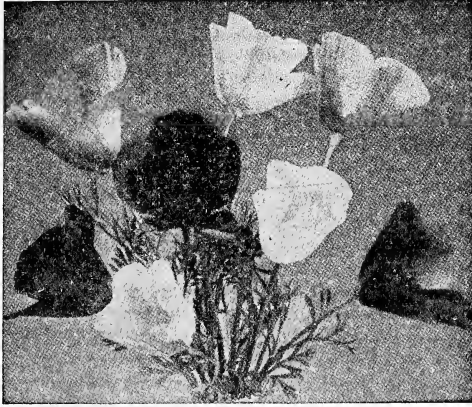
A pretty, free-flowering plant. Fine for bouquets. Pink and white. Seeds very small. Sow in boxes indoors, covering lightly with sifted soil firmly pressed down. Transplant to open as soon as large enough to handle. Height 2 to 3 feet.

**Paniculata**—Foliage fine; covered with tiny pure white flowers. Hardy. Pkt 5c,  $\frac{1}{4}$  oz 25c





## Perennial Flower Seeds—Continued



*Eschscholtzia—California Poppy*

### ESCHSCHOLTZIA—California Poppy

Beautiful and popular perennial, although often grown as an annual. They commence to bloom within a few weeks' time from Spring-sown seed and continue to flower profusely until late in the Autumn, forming nice, bushy plants 1 to 1½ feet high. Colors yellow, red, orange and white. Fine delicate foliage. Sow seeds either in Fall or Spring where plants are to remain as seedlings are difficult to transplant. Thin to 12 inches.

**Single White or Mixed.** Pkt 5c, oz 40c

**Golden West**—Yellow with orange center—flowers large. Pkt 5c, oz 50c

**Carmine King.** Pkt 5c, oz 75c

**Mandarin**—Inner side of petals rich orange, outer side brilliant scarlet; very striking; single. Pkt 5c, oz 40c

(For other sorts see Poppies.)

### HOLLYHOCK, or *Althaea*

The modern Hollyhock is a great improvement over the old type, the flowers being larger and richer colored. For backgrounds there can be nothing better. Hardy. Seeds should be sown in open from Spring to mid-Summer, transplanting to permanent location in late Fall. Give rich soil for best results. Five feet high. **Chaters**—Superb strains. Double varieties. of greatest perfection

**Scarlet, Rose, Newport Pink, Maroon, Yellow, White, Mixed.** Pkt 10c, ¼ oz 75c

### KUDZU VINE—*Pueraria Thunbergiana*

Beautiful Japan climber, hardy perennial with fragrant purplish-violet, wistaria-like flowers. Height 10 to 12 feet. Pkt 10c

### LEMON VERBENA

Every garden should have a few plants of this fragrant favorite. Its pale green foliage goes well with any flower. Height 1 to 2 feet. (Usually propagated from cuttings, seldom from seed.) Pkt 10c

### LINUM—Crimson Flax

Effective and showy bedding plants having fine foliage and delicate stems. Flowers brilliant crimson. Sow seeds where wanted and thin to 6 inches. Height 1 to 2 feet.

**Grandiflorum Rubrum.** Pkt 5c, oz 50c

### LOBELIA

**Cardinalis**—Flowers rich red; dark green foliage. Especially valuable for border decoration. Sow seeds in boxes indoors. Cover very lightly with sifted soil and press down firmly. Cover box with glass until seedlings appear. If sown in January or February, will usually bloom in May. Height 6 to 12 inches.

Pkt 10c, ½ oz 75c

### LUPINUS

Shrubby plants, bearing long spikes of flowers. Colors white and pink, occasionally blue. Sow seeds in open early in Spring. Transplant when 2 to 3 inches high. Give plenty of room. Height 1 to 2 feet.

**Perennial—Mixed.**

Pkt 5c, oz 40c

### LYCHNIS

**Rose Champion—Jerusalem Cross**—Few plants produce more brilliantly colored blossoms. Flowers are borne in clusters and continue fresh and brilliant for a long time. Hardy, 1 to 2 feet high. Orange, scarlet and crimson. Seeds should be sown where plants are to remain, thinning to prevent crowding.

**Haageana Hybrida—Mixed.**

Pkt 10c, ½ oz 35c

### MIMULUS

**Moschatus or Musk Plant**—Cultivated for its rich musky odor. Flowers yellow, white or spotted. Height 1 ft. Should have a rich soil and ample moisture. Will bloom first year if seed is sown early. Does best in shady situation.

Pkt 10c, ½ oz \$1.00.

**Tigrinus Nanus, or Monkey Flower**—Beautifully spotted. Mixed, all colors.

Pkt 10c, ½ oz \$1.00

### PAMPAS GRASS—*Cortaderia Argenteum*

A noble ornamental grass, easily grown from seed; producing majestic plumes that are invaluable for Winter decorations. Height 6 to 10 ft. Sow seeds thinly in a sheltered place, transplanting to another prepared bed when a few inches high. Set out in permanent location when about 1 year old. See Plant Department.

Pkt 10c

### PENTSTEMON—Beard Tongue

Brilliant bell-shaped flowers borne on long spikes, and produced abundantly all Summer. Colors range through red, rose, cherry, carmine, pink and purple. Should be sown indoors. Cover lightly and press down firmly. Transplant to open.

**Mixed.**

Pkt 10c, ¼ oz 75c

### PEAS—Perennial—*Lathyrus Latifolius*

Similar to Sweet Peas, but not so fragrant; they bloom through a long season, are perfectly hardy, and will live for years. Should be sown near a fence or other support, thinning to 2 to 3 feet apart. Height 4 to 6 feet.

**Mixed.**

Pkt 10c, oz 75c

### PHLOX DECUSSATA—Perennial

Large compact heads of bloom from mid-Summer until Fall. Height 2 to 4 feet. Wide range of colors. Sow seeds early in boxes and transplant seedlings once before placing in permanent location. Usually blooms the first season. See Plant Department for finest named varieties.

**Mixed.**

Pkt 10c, ½ oz 50c



## Perennial Flower Seeds—Continued

### PASSIFLORA—*Passion Flower*

Most interesting and well-known climber, bearing singularly beautiful flowers. Height 10 to 12 feet. **Blue.** Pkt 10c, ¼ oz \$1.00

**PINKS**—The *Dianthus* family embraces some of the finest of all flowering plants. The blooms are of the richest and most pleasing colors, and nothing can surpass the exquisite fragrance of some varieties. They are hardy, and become perennial in warm climates. Sow seeds in boxes indoors and plant out in good soil when 1 to 2 inches high.

**Chinensis**—Single mixed. Pkt 5c, ¼ oz 15c

**Chinensis**—Double mixed. Pkt 5c, ¼ oz 25c

**Heddwegii**—Single mixed. Color varies from richest velvety crimson to delicate rose.

Pkt 5c, ¼ oz 25c

**Heddwegii**—Double mixed. Large flowering; splendid.

Pkt 10c, ¼ oz 50c

**Heddwegii Diadematus Fireball**—Extra double brilliant dark scarlet. Very beautiful.

Pkt 10c, ¼ oz 50c

**Heddwegii Laciniatus Snowball**—Double white.

Pkt 10c, ¼ oz 50c

**Heddwegii Laciniatus**—Fine single fringed, finest assorted colors.

Pkt 10c, ¼ oz 50c

### POPPIES

Seeds should be planted in small pots and thinned to one plant in each pot, as they are difficult to transplant. When pot is full of roots, plant in permanent location in good soil. Height 1 to 3 feet.

**Bracteatum**—Hardy perennial; very showy, red.

Pkt 10c, ¼ oz 35c

**Iceland, or Nudicaule**—Bright green, fern-like foliage, formed in tufts from which issue slender stalks about 12 inches high, bearing yellow, white or orange-scarlet flowers in endless profusion and most useful for cutting. Mixed colors.

Pkt 10c, ¼ oz 35c

**Oriental**—Hybrid mixed. Very hardy and early flowering.

Pkt 10c, ¼ oz 50c

### PYRETHRUM

Very ornamental plants, for both foliage and flowers. Seeds should be sown very early in boxes. Cover very lightly with sifted soil and press down firmly. Transplant to permanent location as soon as large enough to handle. If flowers are allowed to form, foliage will change from yellow to green. Height 1 to 2 feet.

**Parthenium Aurem, or Golden Feather.** Gold leaved, flower white. Pkt 5c, ¼ oz 25c

### RUDBECKIA—*Golden Glow*

**Newmani**—Brilliant orange yellow petals around a large dark center. Useful for borders or as a single group. Sow seeds in a sheltered location and transplant when a few inches high. Height 4 to 6 feet.

Pkt 15c

**Fulgida**—Orange yellow; perennial. Pkt 15c

### SNAPDRAGON—*See Antirrhinum*

### STATICE—*Sea Lavender*

Splendid for border or rockery, producing panicles of minute flowers, can be dried and used for Winter bouquets. Sow where plants are to remain and thin to 6 to 12 inches. Height 1 to 1½ feet.

**Blue.**

Pkt 10c

### SWEET ROCKET—*Hesperis*

An old, hardy garden favorite. Fragrant white flowers, 2 to 3 feet high, resembling Perennial Phlox. Sow seeds early and transplant once before placing in permanent location.

Pkt 5c, ¼ oz 15c

**Sweet Sultan**—*See Centaurea.*

### SWEET WILLIAM—*Dianthus Barbatus*

Remarkably free-flowering plant of brilliant colors, ranging from snow white to darkest crimson and purple, and emitting a very delicate and refreshing fragrance. May be sown in open and thinned to 6 to 8 inches. Height 1 to 1½ feet.

**Single Mixed**—Very beautiful.

Pkt 5c, ½ oz 50c

**Dunnetti**—Dark crimson, single.

Pkt 10c, ½ oz 60c

**Pure White**—Single.

Pkt 10c, ½ oz 75c

**Double Mixed.**

Pkt 10c, ½ oz \$1.00

### TRITOMA—*Red Hot Poker*

Bright, showy flowers produced in large spikes of brilliant rich colors. Although hardy, requires some protection through the Winter. Will bloom first season from seeds sown indoors very early and planted out as soon as soil is warm. Cut flowers keep a long time. Height 2 to 3 feet.

**Uvaria**—Dazzling orange red.

Pkt 15c, oz 75c

### VALERIANA—*Garden Heliotrope*

Sweet scented flowers having red or white blooms produced in large heads. Fine border plants, 2 to 3 feet high. Sow seeds early in boxes and transplant to permanent location as soon as large enough to handle. Should have rich soil.

**Red.**

Pkt 5c, ¼ oz 35c

### VINCA—*Old Maid*

Tender perennial. Fine for pot culture. Flowers white and pink.

**Mixed.**

Pkt 10c, ¼ oz 50c

### VIOLET

**Violet Odorata** is the well-known English Violet, a free-flowering, hardy perennial. Easily grown from seed, though somewhat slow in germinating, succeeds best in partially shaded moist places.

**Blue**—Very fragrant.

Pkt 10c, ¼ oz 50c

**The Czar**—Finest forcing Violet. Very large. Dark blue.

Pkt 15c

### WALL FLOWER—*Cheiranthus Cheri*

Produces spikes of beautiful, exceedingly fragrant flowers. Colors yellow, red, orange and brown. Half hardy perennials. Sow seeds in open and transplant to permanent location late in Summer. Should bloom second season. Height 1 to 1½ feet.

**Goliath**—Single, extra large; fine dark brown, very early; fine for forcing. Pkt 10c, ¼ oz 50c

**Mixed, Single**—Large flowering.

Pkt 5c, ¼ oz 25c

**Finest Tall Double Mixed**—Branching.

Pkt 10c, ¼ oz 75c



## FLOWER SEEDS—GREENHOUSE CULTURE

### ASPARAGUS SPRENGERI—*Emerald Feather*

One of the best of the new so-called ferns. Feathered foliage; useful for bouquets, wreaths or sprays, remaining perfect for weeks after cutting. Seeds should be sown under glass with night temperature of about 65 degrees. Will germinate in 4 to 6 weeks. Height 2 to 4 feet. (For plants see Plant Department.)

**Pkt 10c, 50 seeds 25c**

### ASPARAGUS PLUMOSUS—*Asparagus Fern*

One of the prettiest house plants. The leaves are bright green, gracefully arched, surpassing Maidenhair Ferns in grace, delicacy of texture and richness of color. Culture same as Sprengeri. Height 6 to 12 feet. (For plants see Plant Dept.)

**Pkt 25c, 50 seeds 50c**

### BEGONIA

Begonias are among the most beautiful of flowering plants, especially adapted to pot culture. They are difficult to grow from seeds even in a greenhouse. Generally propagated by cuttings. (See Plant Department.)

*Gracilis*—Pink, White, Bonfire, Luminosa.

**Pkt 25c**

**Pkt 25c**

*Salmon Queen.*

### CALCEOLARIA

Beautiful flowers of unique form and colors, ranging from red, yellow, brown and orange. Fine for pot culture. Seeds should be sown in flats very thinly, covering lightly with sifted soil firmly pressed down. As soon as large enough to handle, seedlings should be transplanted to thumb pots, shifting from size to size as they become potbound. Of little value outdoors as the hot sun ruins the blooms.

*Hybrida*—Finest mixed.

**Pkt 50c**

### CANNA—*Indian Shot*

Large, ornamental, tropical looking plants of easy culture. Soak seeds in warm water for several hours, or until they commence to swell, then plant under glass. When second leaf appears transplant into pots and keep under glass until soil outside is warm. Colors red and yellow. Height 2 to 6 feet. (For Canna Bulbs see Plant Department.)

*Crozy's Dwarf Mixed.*

**Pkt 10c, oz 40c**

### COLEUS

Probably the best known and most popular of ornamental foliage plants. Leaves of all shades and colors. Tender perennial. Sow seeds in flats indoors. Transplant seedlings to other flats until settled warm weather, when they may be transplanted to open garden. Should be potted for house culture before frost. Height 1 to 2 feet.

*Extra Choice Mixed.*

**Pkt 25c**

### CYCLAMEN

Florists' pot plant. Beautiful Winter and Spring flowering plants for the window and greenhouse. Special cultural instructions on request.

*Giganteum Hybridum*—White with carmine eye, dark red, salmon-pink, light rose.

**Pkt 25c**

### DRACAENA

Ornamental greenhouse plant. Very desirable.

*Indivisa Lineata*—Narrow, dark foliage.

**Pkt 10c, ¼ oz 30c**

### GREVILLEA ROBUSTA—*Silk Oak*

Very beautiful and graceful foliage plant with fern-like foliage—a splendid pot plant. Sow seeds in boxes in late Winter or early Spring, potting the seedlings when 2 to 3 inches tall. Re-pot frequently to maintain rapid growth. Height 2 to 4 feet.

**Pkt 10c, oz \$1.25**

### HELIOTROPE

Flowers in large clusters of lovely shades of blue. Delightfully fragrant and free-blooming. Splendid for bedding, pot culture or bouquets. Start under glass very early in Spring, transplanting to pots or open garden. Will bloom in 2 to 3 months.

*Choice Mixed.*

**Pkt 10c, ¼ oz 50c**

*Fine Mixed*—Very fine.

**Pkt 10c, ¼ oz 40c**

### LANтана

A free-flowering shrubby plant, suitable for out-door or pot culture. The flowers emit an agreeable odor and are of many shades of purple, orange and white. Half-hardy perennial. Sow seeds thinly in boxes indoors, covering very lightly. Transplant to garden when 2 to 3 inches high. Height 1 to 2 feet.

*Hybrida Fine Mixed.*

**Pkt 10c, ¼ oz 35c**

### PRIMULA—*Primrose*

The first three varieties named below are hardy, early blooming garden plants, and the others beautiful winter-blooming house plants. Soak seeds in warm water for 24 hours, then sow thinly in shallow boxes of soft sandy soil, covering lightly with sand. Press down firmly and cover with glass until through the surface. When large enough to handle transfer into other boxes of fine soil. Remove to permanent location when about 2 inches high.

*Polyanthus*—Early blooming, dwarf growing plants. Valuable for outdoor bedding. Mixed colors.

**Pkt 10c, ¼ oz \$1.00**

*Vulgaris*—Yellow, common, English Primrose.

**Pkt 10c, ¼ oz \$1.00**

*Japonica, or Japanese Primrose*—The beautiful, large, various colored flowers stand in whorls, pyramidically arranged on short flower stems one foot high; though perennial, new plants flower more freely, and seeds should be sown every year. Mixed varieties.

**Pkt 15c, ¼ oz 75c**

*Sinensis, or Chinese Primrose*—The beautiful, large fringed flowers stand in pyramids arranged on short flower stems. Blossoms of every shade of color, from pure white to deep crimson, and even deep blue; especially fine for Winter and Spring flowers in the house; Finest mixed.

**Pkt 25c, ¾ oz \$2.00**

*Sinensis*—Double finest mixed.

**Pkt 50c**

*Obconica Grandiflora*—Beautiful single flowers. This is really an ever-blooming plant, producing elegant clusters of flowers continuously throughout the year. Fine mixed.

**Pkt 15c, ¼ oz \$2.00**

### SMILAX—*Medeola Asparagoides*

Charming, tender, perennial climber for greenhouse or window gardens. The foliage and stems are of pleasing light green; excellent for decoration. If grown from seeds, should be treated same as Asparagus Sprengeri. (See Plants.)

**Pkt 5c, ¼ oz 35c**



## CLASSIFICATION OF FLOWERS

This will enable you to tell at a glance what flowers are suitable for any position

### Annual Bedding Plants or Tall Border Plants 1 to 2 feet

Ageratum, Tall.....	blue, white or mixed
Asters.....	various colors
Balsam.....	various colors
Brachycome.....	blue, white, rose
Browallia.....	blue and white
Calendula.....	mixed
Candytuft.....	various colors
Celosia.....	crimson
Centurea.....	yellow, rose
Chrysanthemum.....	yellow, white, gold
Clarkia.....	pink, scarlet
Eschscholtzia (California poppy).....	crimson, white, yellow
Four O'Clock.....	various colors
Gaillardia.....	orange, scarlet
Gilia.....	white, lilac, rose
Godetia.....	variegated rose and white
Gypsophila (for bouquets).....	white
Linum (scarlet flax).....	scarlet
Margold.....	yellow, red, brown and variegated
Mignonette.....	white, yellow, red
Nasturtium, dwarf.....	various colors
Nigella (Love in a mist).....	various colors
Petunia.....	various colors
Poppy.....	various colors
Phlox.....	various colors
Scabiosa.....	white, lilac, carmine and maroon
Schizanthus.....	various colors
Salvia.....	scarlet
Stocks (10 weeks).....	all colors
Viscaria.....	various colors
Zinnia.....	various colors

### Everlasting Flowers

Acroclinium.....	all colors
Globe Amaranth, Gompherena.....	various colors
Helichrysum.....	various shades
Rhodanthe.....	pink, white
Statice.....	white, blue and yellow

### Tall Growing Plants for Grouping—Annual From 2½ feet up

Amaranthus.....	scarlet
Calliopsis.....	yellow, brown, maroon
Castor Bean.....	all colors
Cosmos.....	white, red, pink
Euphorbia.....	various colors
Kochia.....	various colors
Larkspur.....	white
Nicotiana.....	yellow
Rudbeckia.....	various colors
Salpiglossis.....	all colors
Scabiosa Grandiflora.....	yellow
Sunflower.....	yellow

### Low Edging Plants—Annual

Ageratum Dwarf.....	blue, white or mixed
Alyssum.....	white
Bulbs.....	all colors
Calliopsis, Tiger Star.....	reddish brown
Candytuft.....	various colors
Celosia, Dwarf.....	various colors
Centaurea, Dusty Miller.....	various colors
Dianthus.....	blue
Lobelia Compacta.....	white, yellow, red
Mignonette.....	blue
Nemophila.....	all colors
Pansy.....	yellow, pink, white, scarlet
Portulaca.....	various colors
Verbena.....	various colors

### Climbing Vines—Annual

Balloon Vine.....	white
Scarlet Runner Bean.....	scarlet
Canary Bird Vine.....	yellow
Cypress Vine.....	various colors
Gourds.....	all colors
Moonflower.....	white
Morning Glory.....	various colors
Nasturtium, Tall.....	all colors
Sweet Peas.....	various colors
Wild Cucumber.....	various colors

### Bedding Plants—Perennial—1 to 2 feet high

Agrostema.....	pink
Aster.....	various colors
Begonia.....	various colors
Calceolaria.....	various shades and colors
Calla.....	various colors
Candytuft.....	all colors
Carnation.....	yellow, white, red, pink and variegated
Cineraria.....	various colors
Coleus.....	various colors
Columbine.....	yellow, violet, rose
Daisy (Shasta).....	white
Gaillardia.....	yellow, orange, scarlet
Geum.....	various colors
Linum.....	various colors
Lychnis.....	scarlet
Pentstemon.....	various colors
Salvia.....	scarlet
Statice.....	white, blue, yellow
Stocks (perpetual).....	all colors
Sweet William.....	various colors
Tritoma.....	orange, red
Vinca.....	white, rose
Wallflower.....	various colors

### Low Edging Plants—Perennial, 6 to 12 inches high

Alyssum Saxatile.....	yellow
Anemone.....	various colors
Pinks.....	various colors
Daisy, English.....	various colors
Edelweiss.....	various colors
For-get-me-not.....	blue
Oxalis.....	yellow, pink, lavender, white
Poppy, Iceland.....	white, orange, yellow
Primula.....	various colors
Pyrethrum.....	various colors
Viola.....	yellow, white and blue

### Tall Growing Shrub Plants—Perennial For Grouping from 2½ feet up

Abutilon.....	blue
Anchusia.....	various colors
Aster.....	various colors
Canna.....	various colors
Canterbury Bells.....	various colors
Chrysanthemum.....	various colors
Columbine.....	yellow, violet, rose
Dahlia.....	all colors
Delphinium.....	various colors
Digitalis.....	various colors
Fuchsia.....	scarlet, white, pink
Geranium.....	various colors
Gladiolus.....	yellow
Goldenrod.....	various colors
Hollyhock.....	red, white, yellow
Lantana.....	various colors
Lavender.....	various colors
Lobelia Cardinalis.....	various colors
Lupin.....	shades of blue
Poppy, Oriental.....	various colors
Phlox, Perennial.....	various colors
Scabiosa.....	various colors
Snappedragon, Tall.....	various colors
Wallflower.....	various colors

### Climbing Vines—Perennial

Ampeolopsis, Boston Ivy and Virginia Creeper.....	white, lavender, red
Clematis.....	white, lavender, red
Cobea Scandens.....	various colors
Kudzu Vine.....	violet

### For Rockeries, Hanging Baskets or Window Boxes

Asparagus Fern.....	various colors
Edelweiss.....	various colors
For-get-me-not.....	blue
Ice Plant.....	various colors
Lobelia Trailing.....	blue
Mimulus.....	yellow
Nasturtium.....	various colors
Oxalis.....	yellow, white, pink, lavender
Portulaca.....	various colors
Thunbergia.....	buff, orange and white
Verbena.....	various colors
Petunia.....	various colors

 PLANTS FOR IMMEDIATE EFFECTS SUPPLIED IN SEASON—SEE PLANT DEPT.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## "DIAMOND" QUALITY ROSES

**D**IAMOND QUALITY ROSES are large, sturdy, two-year-old, field-grown roses that will give you splendid flowers the first season. They are true to name and our list includes the best of the well known popular varieties, the most meritorious of recent novelties and the Gold Medal roses of famous European growers.

### Planting and Care

In our favored section, roses attain a perfection seldom equaled, but you cannot expect them to thrive and bloom unless you care for them. We offer the following simple suggestions.

**SOIL**—Any good, well-drained garden soil, enriched with fertilizer, will give excellent results. If heavy clay soil mulch well with burnt earth and manure, rotted sod or leaf mold.

**FERTILIZER**—Our odorless fertilizer, Bone Meal, Tankage of Blood, will give excellent results and should always be applied after the plants start their growth.

**WATERING**—When setting out, water regularly until roots are well set; then about once a week unless the ground is very dry; in such cases more often. Do not get the foliage wet after a hot day. This causes mildew.


**FINALLY**—Keep the surface well worked around the plants. This is as necessary as water or fertilizer. When planting cut back freely, and the bush will recover quickly.

**SHIPPING**—We always send all our two-year-old rose bushes charges collect by express or freight, packing them so they will carry safely even though they should be on the road for two weeks or more.

If necessary, we can send small two-year-old bushes by mail at an additional cost to cover postage, but in such cases we always prune the tops and roots ready for planting.

**PRICES**—75c roses \$8.00 doz; \$1.00 roses \$10.00 doz; \$1.50 roses \$15.00 doz.

Prices subject to change without notice. Stock very limited.

 We offer a splendid assortment of popular roses and the best of the new ones, and can secure any variety in commerce, TRUE to NAME.

## 8 Superb New Garden and Exhibition Roses

Fine 2-year Dormant Plants, not prepaid, \$1.25; \$12.00 per doz unless otherwise priced

Young Plants 75c each. Those marked \* are supplied in two-year only

**COLUMBIA** (H. T.)—One of the greatest of last year's introductions. The color is a true pink, deepening as it opens to a glowing pink. A striking peculiarity of this rose is that the shades all deepen as the rose opens. Single buds on long stems, splendid for cutting.

Each \$1.50

\***COUNTESS CLANWILLIAM**—(H. T.)—A distinct and charming rose, producing flowers in great abundance. Color delicate peach pink, petals flamed and edged with deep cherry red. Long pointed buds opening to large full flowers. Of strong, vigorous habit.

\***LADY MARY WARD**—(H. T.)—Free, vigorous and hardy, color rich orange, shaded deeper orange with metallic veining.

\***TIPPERARY**—Beautifully formed buds of a bright canary yellow, produced with great freedom. A fine new Irish rose with all the requisites of a good garden and decorative variety.

**GORGEOUS**—Strong, vigorous growing, with handsome olive-green foliage. Flowers very large, finely formed, produced freely on stout canes. Color deep orange-yellow, heavily veined with reddish copper.

**HADLEY**—(H. T.)—Color beautiful rich bright red. Very free and constant. A shapely, graceful bud and flower. One of the most charming and distinctive red roses.

**LADY ALICE STANLEY**—(H. T.)—Large, full flowers of lovely, deep coral, inside pale flesh. A free grower and a profuse bloomer.

**LOS ANGELES**—Described by the originator as "a flame pink toned with coral and shaded gold at base of petals." Buds long, pointed and lasting. The flowers are very large and the beauty of coloring does not fade. Flowers profusely all season on strong shoots. The foliage is a rich, luxuriant glossy green. Two-year field-grown plants. Everyone should have Los Angeles.

Each \$1.50





## BEAUTIFUL ROSES OF RECENT INTRODUCTION

*The following are the recent novelties and Gold Medal roses that have proven their merit and are now generally in great demand.*

**Fine 2-year Dormant Plants, not prepaid, \$1.00; \$10.00 per doz.**

**Young plants 50c ea. Those marked\* are supplied in two-year only.**

**\*ADMIRAL WARD**—(H. T.)—A fine bedding variety of vigorous growth and erect branching habit. Spherical blackish red bud opening to large, full, globular flowers of crimson red with shadings of fiery red and velvety purple.

**BETTY**—(H. T.)—Beautiful coppery rose color, overspread with golden yellow. Fragrant.

**DUCHESS OF WELLINGTON**—(H. P.)—Intense saffron yellow stained with rich crimson which, as the flower develops, becomes deep coppery saffron yellow. Delightfully fragrant.

**EDWARD MAWLEY**—(H. T.)—Long pointed buds of deep, rich, velvety crimson. Growth is upright and branching with handsome foliage. One of the finest red roses.

**GEORGE DICKSON**—(H. T.)—Very strong and vigorous; velvety blackish crimson, with back of petals heavily veined with pure crimson maroon. Delightfully scented.

**HOOSIER BEAUTY**—Crimson scarlet with darker shadings, velvety texture. Bud long and pointed, deliciously fragrant.

**JULIET**—(H. B.)—A wonderful combination of old gold on the outside of petals and a rich rosy red on the inside. Flowers large, full and delightfully scented.

**KAISERIN AUG. VICTORIA**—(H. T.)—Elegant, large pointed buds; large, full double flowers; color delicate creamy white; fragrant.

**KILLARNEY QUEEN**—A sport from the well known Killarney but a much more robust grower, producing fine, large, nice formed buds of a deep rich rose color, lightened towards edge of petals. Very strong growing, remarkably strong canes of great length. A fine garden rose.

**LADY HILLINGDON**—(T.)—Deep apricot yellow, long and pointed bud. Flowers are of good substance and very lasting. Foliage luxuriant. A fine forcing or garden rose, excellent for cutting. **Each \$1.25**

**\*LOUISE CATHERINE BRESLAU**—(H. T.)—Coral red, shaded chrome yellow, opening to a shrimp pink, shaded coppery orange.

**MADAME MELANIE SOUPERT**—(H. T.)—Splendid new orange yellow shaded pink; beautiful, long-pointed buds. Best of its color.

**MAD. RAVARY**—(H. T.)—Clear orange yellow. Long pointed buds; flowers of fine form.

*A splendid gift Rose that your friends will appreciate*



*Los Angeles*

**\*MARQUIS DE SINETY**—(H. T.)—Deep saffron yellow, flushed reddish copper. Flower large, beautiful dark foliage.

**MELODY**—(H. T.)—Intense deep saffron yellow with primrose edges. Blooms medium size, very fragrant and freely produced.

**MRS. AARON WARD**—(T.)—A deep golden orange color shading out to lemon or creamy yellow at the edge of the petals. One of the most beautiful roses in existence.

**MAD. EDOUARD HERRIOTT**—The famous winner of the *Daily Mail* Prize. The color being terra-cotta bronze and geranium red, a new combination of colors in rose.

**MRS. FOLEY HOBBS**—(T.)—Immense flowers of ivory white, delicately tinged pink on edge of petals. A great bedding rose.

**\*RAYON D'OR**—(Pern)—Long, pointed buds of deep orange-cadmium smeared claret, opening to a rich sunflower yellow. Foliage is deep, glossy green; and free from mildew.

**RED LETTER DAY**—(H. T.)—An exceedingly beautiful semi-double rose of velvety brilliant scarlet crimson. Flowers are medium size, curiously cactus-shaped and do not blue or burn. Vigorous, erect, free blooming.

## GRAND GARDEN ROSES

*In this list you will find many famous prize winners and some of the most beautiful and popular roses*  
 Two-year-old plants, not prepaid, 85c each; \$9.00 per doz. Young plants, 40c each.  
 Those marked \* are supplied in two-year only



*Ophelia*

**AMERICAN BEAUTY**—(H. P.)—One of the largest, sweetest and best; rich rosy crimson, shaded and veined in a most charming manner.

**\*BRITISH QUEEN**—(H. T.)—Pure white, large, full flowers, opening freely. One of the best white roses for bedding and cutting.

**\*FRANZ DEEGAN**—(H. T.)—This beautiful yellow is a fine grower, having the good habit of throwing up numerous heavy canes.

**JONKHEER J. L. MOCK**—(H. T.)—Inside of petals red, outside silvery blush white. Rapid grower.

**\*JOSEPH HILL**—(H. T.)—Salmon pink shaded yellow. Outside petals yellow suffused copper.

**LA DETROIT**—(H. T.)—A beautiful shell-pink shading in center to soft rose pink. Reverse of outer petals creamy-flesh tint, strong grower.

**LADY ASHTOWN**—(H. T.)—One of the finest pinks of a rich, deep, silvery tone; flowers large.

**LADY BATTERSEA**—(H. T.)—Long, oval buds, sharply pointed; bright, cherry crimson.

**LA FRANCE**—(H. T.)—A silvery rose, changing to pink. A general favorite. Sweetest of all roses.

**\*LYON**—(Pernetiana)—Beautiful shrimp pink with salmon and chrome yellow shadings. Large, coral red buds, beautifully formed. A continuous and free bloomer. **Each \$1.00**

**MISS ALICE DE ROTHCHILD**—(T.)—Beautiful, shapely buds of rich golden yellow of the Marshal Neil type. Holds its color well.

**\*OLD GOLD**—(H. T.)—Medium sized flowers of a vivid reddish orange color with coppery red and coppery apricot shadings. A splendid garden rose.

**OPHELIA**—(H. T.)—Orange salmon buds, opening to flowers of dainty pink. The foliage is clean, dark and leathery—growth vigorous and free, producing long canes. Blooms early and continuously.

**SUNBURST**—(H. T.)—The finest of all yellow roses with long pointed buds. Color a superb Cadmium yellow with orange yellow center. The foliage is a handsome bronze green.

**VISCOUNTESS FOLKESTONE**—(H. T.)—Color, delicately tinted flesh, almost white, with beautiful satin finish; strong stems.


Owing to the great scarcity of roses, orders will be filled strictly in rotation as received. It will assist us greatly in meeting your requirements if, in ordering, you will make second and third choice. If we have to take the time to write, it may often happen that stock on hand when your order is received will be sold out before we can receive your reply.

### Portland Seed Co.'s "Diamond" Fancy Lawn Mixture

Our "Diamond Quality" Fancy Mixed Grass Seed is prepared from the choicest re-cleaned grass seeds that have been carefully selected for their fineness and deep rooting, close growing habits and seasonable qualities, producing an ideal dense, velvety turf of lasting quality that remains green throughout the year.

**Price, per lb., 60c postpaid; freight or express, per lb., 50c; 10 lbs., \$4.30.**

Sow one pound to 400 square feet, 12 to 15 pounds to a 50-foot lot.

 **Write us for Special Mixtures for Terraces, Shady Places, Dry or Wet Land**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## FAVORITE GARDEN AND EXHIBITION ROSES

*A choice collection of the best standard varieties, "tried and true," sure to give satisfaction.*

**Young Plants 35c ea; Two-year field-grown plants, not prepaid, 75c; doz \$8.00.**

**BESSIE BROWN**—(H. T.)—Creamy white; large, full, of very fine form. An exhibition rose.

**COUNTESS OF GOSFORD**—(H. T.)—Clear salmon pink, base of petals shading to saffron yellow, very vigorous; perpetual bloomer.

**DEAN HOLE**—(H. T.)—Beautiful silvery carmine, shaded bright golden pink. Free bloomer.

**DOROTHY PAGE ROBERTS**—(H. T.)—Coppery pink, suffused with apricot yellow, very free and perpetual, a delightful garden rose.

**GENERAL McARTHUR**—(H. T.)—Dazzling crimson scarlet; delicious perfume and magnificent foliage. Blooms in great profusion.

**GRUS AN TEPLITZ or VIRGINIA R. COXE**—(H. T.)—Color fiery crimson, with a dark velvety sheen, very fragrant. Free blooming.

**MAD. ABEL CHATENAY**—(H. T.)—Color beautiful rosy carmine, with darker shadings

**MAMAN COCHET**—(T.)—Color is a deep rosy pink, the inner side of the petals silvery rose.

**MME. LEON PAIN**—(H. T.)—A silvery flesh with yellowish orange center; large and full.

**MADAME CAROLINE TESTOUT**—(H.T.)—Bright satiny pink; very fragrant and free in bloom. The official "Carnival Rose."

**PAPA GONTIER**—(T.)—A vivid cherry red color, shaded yellow, reverse of petals crimson.

**PRINCE DE BULGAIRE**—(H. T.)—Very vigorous grower, with large, bright green foliage. Outer petals are extremely large, of superb rosy flesh color; bright red center.

**RADIANCE**—Long, straight canes with handsome foliage each terminating in a large, full flower of globular form of great sweetness. Color rich bright cerise, entirely distinct from any other known variety.

**RICHMOND**—(H. T.)—Vivid red buds and flowers of the most perfect and desirable form.

**SOUV. DE PRESIDENT CARNOT**—(H. T.)—Lovely shell-pink, delicately tinted with gold fawn on rich creamy white. Superb for bedding.

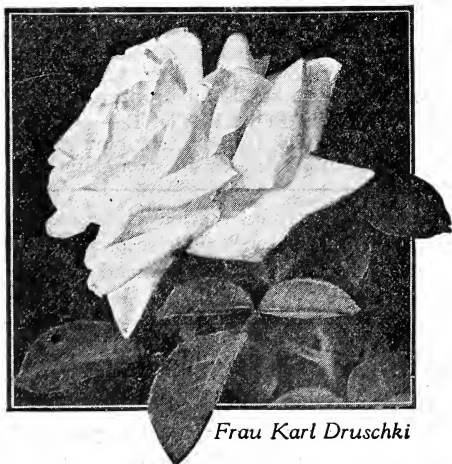
**WHITE MAMAN COCHET**—(T.)—Immense size, exquisitely fragrant; long, pointed buds.

**WINNIE DAVIS**—Fine apricot pink shading to the flesh tint at base of petals. A grand, hardy garden rose.

## Finest Hardy Perpetual Roses

**F**OR Eastern Oregon and Washington or in sections where the winters are severe, this collection will thrive and bloom freely where the Tea and Hybrid Tea roses would not prove satisfactory.

**Young Plants 35c ea; Two-year-old plants, not prepaid, 75c each; \$8.00 per doz.**



*Frau Karl Druschki*

**MRS. JOHN LAING**—(H. P.)—A soft, delicate pink, with satiny tinge; very free flowering.

**PRINCE CAMILLE DE ROHAN**—(H. P.)—Dark, rich, velvety crimson, passing to intense maroon, shaded black; best of its color.

**PAUL NEYRON**—(H. P.)—Deep, shining rose, blooms freely, the largest variety in existence.

**BARONESS ROTHSCHILD**—(H. P.)—Flowers of immense size; color bright rosy pink.

**FRAU KARL DRUSCHKI**—(H. P.)—The white American Beauty. Makes splendid buds and immense flowers; perfectly double.

**GLOIRE LYONNAISE**—(H. P.)—Color, chamois yellow, deepest at the center, passing to creamy white; large, full, sweet, very distinct.

**GENERAL JACQUEMINOT**—(H. P.)—Bright, shining crimson; very rich and velvety.

**HUGH DICKSON**—(H. P.)—Glowing crimson-shaded scarlet. A strong grower and perpetual bloomer (should be cut back freely).

**MABLE MORRISON**—(H. P.)—Of purest velvety white; very double and rounded.

**PINK DRUSCHKI**—(Geo. Arends)—(H. P.)—Moderately large full flower of beautiful bright pink. Is of free flowering habit and highly perfumed. Considered the best of the so-called pink Druschki.

**ULRICH BRUNNER**—(H. P.)—Extra large, bold flowers, full and globular; color, rich, glowing crimson, elegantly flamed with scarlet.

## Baby Rambler or Dwarf Polyanthus Roses

Young Plants 35c each

Two-year-old plants, not prepaid, 75c each

**BABY RAMBLER**—(Dwarf Bush Type)—Not over 18 inches high, producing large trusses of light crimson flowers; clean dark green foliage.

**PINK BABY RAMBLER**—(Mrs. W. Cutbush)—Clusters of pretty double bright pink flowers; freely produced in panicles; always in bloom.

**CECILE BRUNNER**—Bright, rose, yellowish in center; very sweet; dwarf polyanthus.

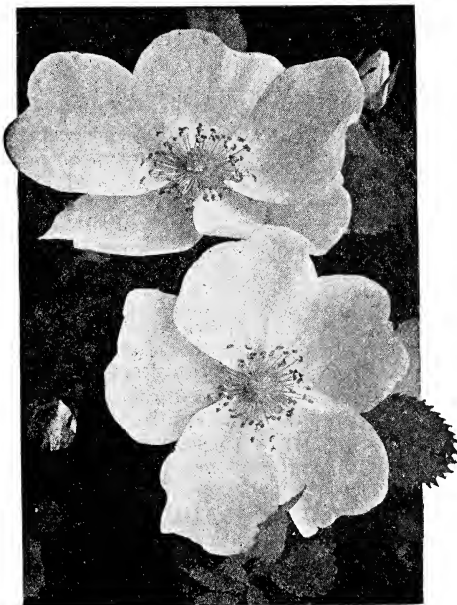
## Single Roses

Two-year Only—Not prepaid

**AUSTRIAN COPPER**—(A. B.)—A beautiful single rose of bright reddish copper. Each 75c

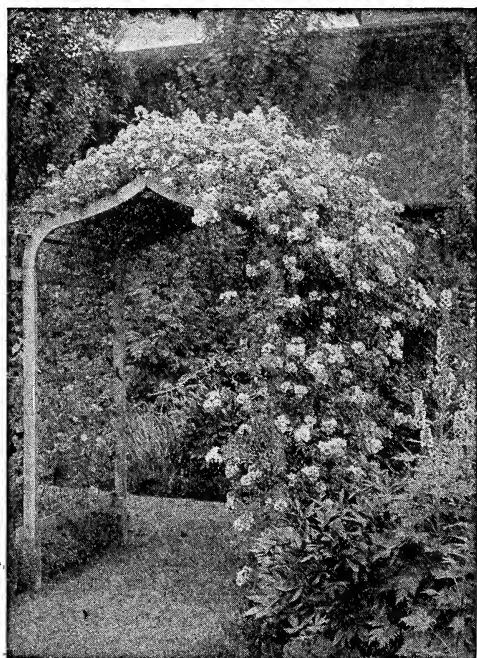
**IRISH ELEGANCE**—(S.)—Large, single, golden bronze flowers of great beauty, free and constant bloomer, with deep bronze foliage. Each 75c

**IRISH FIREFLAME**—(S.)—Deep orange splashed crimson, changing to fiery orange crimson; buds hold shape long time. Each 75c



Single Roses

**DIAMOND LAWN AND ROSE FERTILIZER** worked into the top soil early in the season—about a handful to each established plant—will produce a vigorous growth, more and better roses.



## The Popular Rambler Roses

The Rambler Roses are strong, vigorous climbers, growing ten to twelve feet high in one season.

Young Plants 35c each

Two-year-old plants, not prepaid, 75c each;  
doz \$8.00.

**FLOWER OF FAIRFIELD**—Brilliant crimson, base of petals white; a splendid grower and a great improvement over the old type.

**PHILADELPHIA RAMBLER**—An improved type of the favorite Crimson Rambler; color deeper and more brilliant; flowers double.

**VEILCHENBLAU (Blue Rambler)**—Large trusses of semi-double flowers, opening pink, but quickly change to a violet, or steel blue.

**DOROTHY PERKINS**—Polyanthus type; a beautiful bright shell-pink; large double flowers.

**RED DOROTHY PERKINS**—Fine crimson rambler; glossy green foliage; never troubled with mildew. Flowers very double.

**WHITE DOROTHY**—A sport from Dorothy Perkins, possessing all the fine qualities of that grand variety, but having pure, white flowers.

**TAUSENDSCHON**—A lovely shade of soft pink, free and vigorous; splendid foliage.

**DIAMOND LAWN GRASS MIXTURE** makes an evergreen, velvety turf. Special mixtures to order

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## Climbing and Pillar Roses

Young Plants 35c each

Two-year-old bushes, field grown, not prepaid, 75c each; doz \$8.00 (except as noted).

**AMERICAN PILLAR**—(Wich.)—A beautiful bright pink with yellow anthers.

**CLI. MAD. ABEL CHATENAY**—(H. T.)—Color beautiful rosy carmine, with darker shadings.

**CLIMBING BELLE SIEBRECHT**—(C. H. T.)—Flowers identical with bush type; vigorous climber; hardy.

**CLIMBING CECIL BRUNNER**—Clusters of pretty pink flowers, especially beautiful in bud.

**CLI. MADAME CAROLINE TESTOUT**—Immense globular flowers of the same beautiful shade of pink as seen in the bush sort.

**CLI. SUNBURST**—A splendid climber of the same beauty and freedom of bloom as the bush form of this popular rose. **Each \$1.00**

**CLI. GENERAL McARTHUR**—(H. T.)—Dazzling crimson scarlet; delicious perfume and magnificent foliage. Blooms in great profusion.

**CLI. HOOSIER BEAUTY**—Crimson scarlet with darker shadings, velvety texture. Bud long and pointed, deliciously fragrant.

**CLI. MADAME ALFRED CARRIERE**—Full flowers, very double and sweet; color rich creamy white, faintly tinged pale yellow and blush.

**SILVER MOON**—Magnificent large white semi-double blooms of good substance with golden stamens. Flowers are carried on long stems. Foliage is abundant, delightfully fragrant, of a bronze green color and is immune to mildew.

**MARECHAL NEIL**—A magnificent deep golden yellow variety; so famous as to need no description; finest of its color. **Each \$1.00**

**PINK CHEROKEE**—Lovely single blossoms 3 to 5 inches in diameter, saucer shaped and of a beautiful shade of light pink.

**WHITE CHEROKEE**—Strong erect grower. Large, pure white flowers borne profusely.

**WICHURIANA ALBA**—Pure white. Single with yellow anthers. Ideal for pillar or rock work. **Each \$1.00**

**NOTE**—We have a large list of ROSES not catalogued on account of having but a limited supply of each variety. Should you not find what you want in the foregoing list, it may be possible we can fill your order and should we not have the variety in stock, if obtainable in the City we will secure it for you.

## ALPHABETICAL LIST OF ROSES

	PRICE	PAGE		PRICE	PAGE		PRICE	PAGE
Admiral Ward.....	\$1.00	78	Hoosier Beauty.....	\$1.00	78	Mrs. Foley Hobbs....	\$1.00	78
American Beauty....	.85	79	Hugh Dickson.....	.75	80	Mrs. John Laing.....	.75	80
Austrian Copper.....	.75	81	Irish Elegance.....	.75	81	Mabel Morrison.....	.75	80
Baby Ramblers.....	.75	81	Irish Fireflame.....	.75	81	Maman Cochet.....	.75	80
Baroness Rothschild..	.75	80	Jonkheer J. L. Mock..	.85	79	Marquis de Sinety...	1.00	78
Bessie Brown.....	.75	80	Joseph Hill.....	.85	79	Melody.....	1.00	78
Betty.....	1.00	78	Juliet.....	1.00	78	Mme. Leon Pain.....	.75	80
British Queen.....	.85	79	Kais. Aug. Victoria..	1.00	78	Old Gold.....	.85	79
Cecile Brunner.....	.75	81	Killarney Queen.....	1.00	78	Ophelia.....	.85	79
Cli. Roses.....	.75	82	Lady Alice Stanley...	1.25	77	Papa Gontier.....	.75	80
Columbia.....	1.50	77	Lady Ashtown.....	.85	79	Paul Neyron.....	.75	80
Countess Clanwilliam..	1.25	77	Lady Battersea.....	.85	79	Pink Druschki.....	.75	80
Countess of Gosford...	.75	80	Lady Hillingdon.....	1.25	78	Prince de Bulgaire...	.75	80
Dean Hole.....	.75	80	Lady Mary Ward.....	1.25	77	Prince C. de Rohan...	.75	80
Dorothy Page Roberts..	.75	80	La Detroit.....	.85	79	Radiance.....	.75	80
Duchess of Wellington.	1.00	78	La France.....	.85	79	Rayon D'Or.....	1.00	78
Edward Mawley.....	1.00	78	Louise Cath. Breslau.	1.00	78	Ramblers Roses.....	—	81
Franz Deegan.....	.85	79	Lyon.....	1.00	79	Red Letter Day.....	1.00	78
Frau K. Druschki.....	.75	80	Los Angeles.....	1.50	77	Richmond.....	.75	80
Gen. Jacqueminot.....	.75	80	Mad. Abel Chantenay..	.75	80	Souv. de Pres. Carnot.	.75	80
Gen. McArthur.....	.75	80	Mad. Car. Testout....	.75	80	Sunburst.....	.85	79
George Dickson.....	1.00	78	Mad. Edouard Herriott	1.00	78	Tipperary.....	1.25	77
Gloire Lyonnaise.....	.75	80	Mad. Melaine Soupert.	1.00	78	Ulrich Brunner.....	.75	80
Gorgeous.....	1.25	77	Mad. Ravary.....	1.00	78	Viscountess Folkestone	.85	79
Gruss an Teplitz.....	.75	80	Miss Alcede Rothschild	.85	79	White Maman Cochet..	.75	80
Hadley.....	1.25	77	Mrs. Aaron Ward.....	1.00	78	Winnie Davis.....	.75	80

**APHISCIDE — THE BEST SUMMER SPRAY FOR ROSES. Quarts, 35c Gallons, 65c**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**





## ORNAMENTAL CLIMBING VINES

### Clematis

Clematis is one of the most beautiful and useful climbers. Their magnificent flowers, borne in great profusion in beautiful shades of lavenders, purples, reds and white, make them especially attractive. Clematis requires a rich, loamy soil, but manure should not touch the roots. Cut out the weak and surplus branches in the Spring, and tie the vine up well to its support.

**HENRYI**—Fine, large, creamy white flowers; a strong grower and very hardy.

**JACKMANII**—Intense violet purple, with a rich velvety appearance; distinctly veined.

Large plants, each \$1.00, postpaid

**CLEMATIS PANICULATA**—A rapid and vigorous grower; it produces sheets of medium-sized, pure white flowers of the most pleasing fragrance; well adapted for covering trellises or fences.

Choice plants, each 50c; large 60c to 75c

### Honeysuckle

**BELGIAN**—Flowers yellow, blotched with red above; blooms all summer, fragrant. Each 75c

**JAPANESE**—Evergreen; fragrant flowers, white changing to yellow. Each 75c

**HALL'S**—Evergreen, very popular; white turning to yellow. Each 75c

**EVERGREEN BUSH HONEYSUCKLE**—(*Loniceri Nitida*)—Erect growing medium size bush with luxuriant foliage, the small leaves being leathery and glossy; the flowers are cream white and fragrant.

2 to 3 feet, each \$1.50

**WHITE TARTARIAN HONEYSUCKLE**—Large bushy upright growth, flowers freely and red or orange fruit stays on until late. Fine for backgrounds. Each 50c to 75c

### Jasmine

**JASMINE NUDIFLORUM**—Branches drooping, enveloped with bright yellow flowers before leaves appear. Each 60c

**JASMINE OFFICINALIS**—Free-blooming, pure white flowers, star shaped; foliage delicate; evergreen. Each 60c

### Wistaria

**W. SINENSIS**—(Chinese Wistaria)—Grows 15 to 20 feet in a season; has long, pendulous clusters of pale blue flowers in May and June and in Autumn. Choice plants \$1.50 to \$2.50

**WISTARIA CHINENSIS VARIEGATED**—Yellow variegated leaves, pretty after flowering for the beautiful speckled foliage which is very attractive among other green foliage. Flower same as common Chinese Wistaria.

\$1.50 to \$2.50

**W. MULTIJUGA**—Similar to Wistaria Sinensis except in color of flowers which are dark violet blue, borne in very long racemes.

Each \$1.50 to \$2.50

**WISTARIA MULTIJUGA PINK**—Same as above only flowers are light pink. A very rare sort.

\$1.50 to \$2.50

**W. BRACHYBOTRYS**—White flowering.

\$1.50 to \$2.50

Small plants of Wistaria Chinensis for Spring delivery at 50c to \$1.00.

### Ampelopsis

**VEITCHI** "Boston Ivy"—Leaves glossy green, coloring bronze in Fall; flowers small; berries deep blue. Each 75c

**QUINQUEFOLIA** "Virginia Creeper"—Common American Ivy. Each 60c

### English Ivy

Large, thick, shining, leathery leaves; evergreen. Each 35c

### Trumpet Vine

**BIGNONIA GRANDIFLORA**—(Trumpet Vine)—Strong climber; deciduous; flowers orange scarlet. Each 60c

**BIGNONIA TWEEDIANA**—Evergreen clinging; flowers canary yellow. Each 60c

### Dutchman's Pipe

**ARISTOLOCHIA SIPHO**—A handsome bright green luxuriant vine, having large foliage and brownish, pipe-shaped flowers. A strong rapid grower. Strong plants. Each \$1.00

### Pink Passion Vine

A rapid growing, attractive vine, flowering freely throughout the summer and fall. Plant out in April or May. Each 75c

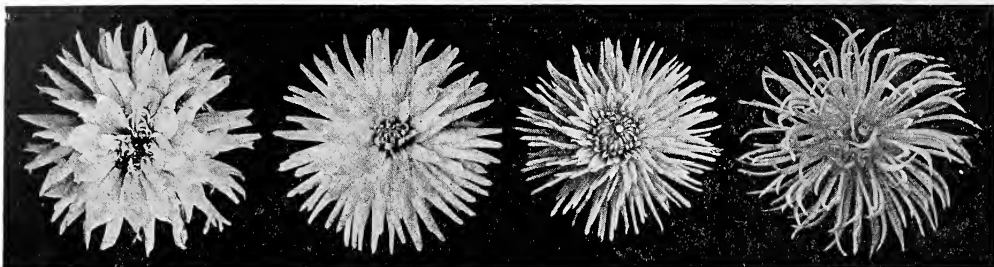
Prices on this page unless otherwise stated F.O.B. Portland; if mailed, postage extra

**ANNUAL VINES**—*Cobaea Scandens*, *Wild Cucumber*, *Canary Bird*, *Morning Glory*, *Nasturtiums*, etc.—SEEDS AND PLANTS IN SEASON

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



# DAHLIAS



**I**N THE SELECTION OF DAHLIAS only those varieties of known merit should be considered. The great Dahlia Specialists of Europe and America have set a high standard, established by their years of comparative trials and you will have greater satisfaction and better values from their tested varieties which we offer, and which have been officially recognized, than you can possibly obtain from untried varieties of doubtful origin.

**OUR TRIALS ARE VERY EXTENSIVE** and are conducted by a practical Dahlia expert of wide experience. All tests are made in the field without irrigation and the Dahlias we list represent the "survival of the fittest," the best of the standard varieties and meritorious novelties of the most famous producers, varieties that are recognized the world over. They are true to name, erect bloomers and good keepers.

**IT IS IMPORTANT** that your Dahlias be recognized varieties and **true to name**. If not, you cannot hope to exhibit them successfully.

## Culture

**DAHLIAS** will grow to perfection in any good garden soil, preferably one that contains a little sand. Plant as soon as the frost is gone and the ground warm, cutting the tuber to a single strong eye, and placing it on its side at a depth of about 6 inches, in ground that has been previously well cultivated. An excellent way to start Dahlias is to sprout the tubers in a green house and set out the rooted plants. These are generally believed to give more and better flowers, but is more trouble than planting the bulbs. Rows should be four feet apart, plants 18 inches to 3 feet apart in the row, depending on whether planted for a hedge or for specimen plants. Cultivate thoroughly until ready to bloom, then deep tillage must cease and only the surface be lightly stirred, as deep cultivation at this time is fatal to blooming. Tall varieties should be staked.

If you use commercial fertilizer, do not apply until the plant starts growth, then work it into the top soil, 5 or 6 inches from the plant. Bone meal is an excellent fertilizer for Dahlias but must be applied early, as it is slow in action. When the plant is well up, say 6 to 10 inches, pinch off the top, leaving 2 or 3 joints. This will cause it to branch out into a more sturdy, bushy growth. Water freely.

## FINEST CACTUS DAHLIAS

From comparative tests in the field we have selected the following as being the best of their types and color. This list contains many of the newest Dahlias as well as the best of the older ones.

**Prices** 25c DAHLIAS \$2.50 doz; 40c DAHLIAS \$4.00 doz  
35c DAHLIAS \$3.00 doz; 50c DAHLIAS \$5.00 doz

Prices F.O.B. Portland; if mailed, postage extra.

### RED AND SHADES

#### BRITISHER

**English Cactus**—Large flower on good stem. Color bright cardinal red; free bloomer.

Each 75c

**KALIF**—A giant flower, color a brilliant pure scarlet. The immense blooms are freely borne on long, st ong stems and make a wonderful display.

Each 60c

**MRS. FERDINAND JEFFRIES**—Immense deep velvety garnet red flowers.

Each 50c

**MRS. SEARLE**—Variegated; tips of petals white, shaded blackish red throughout.

Each 35c

**RENE CAYEUX**—Brilliant geranium red. Dwarf compact growth suitable for hedge.

Each 25c

### YELLOW AND SHADES

**CORONET** (Stredwick)—A beautiful flower, color bright deep orange, but near the base this lightens to yellow. The plants are of good habit, flowers deep and stems of average length.

Each 75c

**COUNTRY GIRL**—Deep golden amber, passing to salmon-rose tips; a favorite.

Each 35c

**DR. ROY APPLETON**—The finest of the straight petal type; a beautiful light lemon yellow, merging to light salmon.

Each 35c

**EDITH CARTER**—Yellow, heavily tipped with bright carmine. Very erect habit and stems. A brilliant showy flower admired by everyone.

Each 50c

**F. W. FELLOWS**—One of the largest Cactus Dahlias, blooms freely on long stems. Orange with narrow straight petals.

Each 50c



## CACTUS DAHLIAS—Continued

### YELLOW

**GOLDEN CROWN**—A beautiful large incurved golden yellow; a strong grower, producing flowers freely. **Each 50c**

**HOFFNUNG**—A beautiful chamois-rose with light yellow at the base of the long, incurved petals. Wonderful free flowering giant hybrid cactus of great merit. **Each 50c**

**MELODY**—Clear yellow, heavily tipped white; large, incurved flower with good stems. A free bloomer and best of its color. **Each 75c**

**YELLOW KING**—Deep sulphur-yellow. **Each 35c**

### LAVENDER

**INDOMITABLE**—Long, narrow petals, perfectly incurved; color rosy mauve. **Each 50c**

**MAUVE QUEEN**—A beautiful true lavender with lighter center, petals incurved. **Each 35c**

**PATRICIA** (Oregon Hybrid Cactus)—While not large, this flower of white shaded lavender has a great future as a cut flower, not only on account of its good keeping qualities and grand stem but for its dainty coloring. **Each 75c**

### WHITE

**CAPTAIN SCOTT** (English Cactus)—A very free flowering white with long petals. Good stems and constant bloomer throughout season. **Each 50c**

## DECORATIVE DAHLIAS

**AVALANCHE**—Pure white, large full flowers of free flowering habit. **Each 50c**

**BALLON**—A very odd shade of bronzy apricot, suffused with gold; quite distinct. **Each 35c**

**CARMELLO**—Light cherry red, shaded orange; variegated foliage; very free. **Each 35c**

**CHALLENGER** (English Decorative)—The florets are broad and flat at base, but partly twisted cactus fashion at points. Color deep salmon overlaying yellow, but a peculiarly pretty rosy tint at tips adds to the beauty of the whole. Two first-class awards. **Each 50c**

**DELICE**—Lovely shade of pink, broad petaled flowers. **Each 35c**

**DIADEM**—Very large, brilliant carmine-rose, collar white with light carmine markings. **Each 25c**

**DUFFREN**—New English variety of a pure, snow white, of most perfect form; long, wiry stems; free. **Each 50c**

**GARIBALDI** (Holland Decorative)—One of the best from Holland. A very full and very large flower with very fluffy petals on a good stem. Color is a bright scarlet. Particularly attractive. **Each 60c**

**New—GENL. JOFFRE** (English Decorative)—deep crimson edged scarlet, a pleasing shade. Long strong stems. **Each \$1.00**

**JACK ROSE**—Crimson red. **Each 25c**

**LATONA**—Fine large flower of pretty pale yellow tinged buff and lavender. Freely produced on the stoutest, erect stems. This new Holland creation is sure to be in great demand very soon. **Each 75c**

**MABEL**—Beautiful, delicate shade of mauve. Finest upright habit, flowering very freely and with extra fine stems. One of the best and most popular cut flowers. **Each 35c**

**MRS. DOUG. FLEMING**—Without doubt one of the best whites. Very narrow, incurved florets, and so numerous as to make monster flowers. Extra free and constant; erect stem. **Each 50c**

**MRS. WARNAAR**—New Hybrid Cactus, creamy white, tinted delicate pink; one of the best to date. **Each 60c**

### PINK AND SHADES

**GEO. WALTERS**—One of the largest and best varieties to date. Salmon pink with gold suffusion in the center. Wonderful bloomer, with long, stout stems. A leader and always in great demand. **Each 75c**

**MARGARET BOUCHON**—A large brilliant, yet soft rose pink with white center and tips; one of the finest of all. **Each 50c**

**MONS**—A beautiful, new rose pink. Erect grower and very reliable. **Each 50c**

**PIERROT**—Lovely, deep amber, usually boldly tipped white. Flowers are of immense size, very double and produced freely. One of the best. **Each 50c**

**SWEET BRIAR**—Strong stems carrying a splendid flower of an exquisite shade of pink. A free and continuous bloomer. **Each 50c**

**SALMON ROSE**—Petals broad and curled, light salmon rose, with gold center. **Each 35c**

**MASTERPIECE** (a Colorado Decorative)—A gigantic flower on very long strong stems. Color is a clear, rich tango. **Each 35c**

**MEADOW GOLD**—Large primrose yellow, tinted light pink; very free on fine stems. **Each 35c**

**MINNIE BIRGLE**—Bright rich red. **Each 35c**

**MAMMOTH**—Extra large flowers of soft scarlet; good bloomer. **Each 35c**

**MRS. ALEXANDER**—Very beautiful; old rose shade. **Each 35c**

**MILLBANK**—Decorative. **Each 35c**

**MONT BLANC**—Decorative; very grand flower; one of the best whites. **Each 50c**

**NEVADA**—Large pure white of perfect form. Free bloomer, strong stems. Splendid for cut flowers. **Each 35c**

**OBAN**—Mauve, shaded to fawn. **Each 25c**

**PAUL BONYON**—Beautiful salmon orange flower freely produced on long upright stems; extra large and fine. **Each 50c**

**New—PRINCESS MARY** (Holland Paeony)—Vivid light pink, margined blush. Very showy. Carries a mass of flowers on strong stems. **Each \$1.00**

**PRINCESS JULIANA**—Pure white, of perfect form; foliage is rich dark green. **Each 50c**

**QUEEN WILHELMINA**—Large, pure white, central petals beautifully twisted and curled; very vigorous and free flowering; one of the finest garden Dahlias. **Each 35c**

**SOUVENIR DE GUSTAVE DOAZON**—Magnificent rich scarlet, often growing 9 inches in diameter; constant bloomer. **Each 35c**

**WYVERN** (English Decorative)—This is an entirely new type of decorative but none the less striking and even more massive in appearance than the pointed petalled varieties. **Each 50c**



## PAEONY FLOWERED DAHLIAS

**AUTUMN GOLD**—Blending of bronze and buff. Large size; very free on good stems.

**Each 35c**

**BASKERVILLE**—Paeony with hybrid cactus petals. Color a beautiful coral; large flower on good stem. An exceptionally satisfactory flower.

**Each 50c**

**CHAMELIAN**—A deep ruby red, variably shaded purple and cerise; fine.

**Each 50c**

**New—DOMINO** (English Paeony)—Crimson shaded maroon. Large irregularly shaped flowers on good stems.

**Each \$1.00**

**DR. H. H. RUSBY**—Immense yellow, shading to primrose tips; profuse bloomer.

**Each 35c**

**FUGI**—Large white with lemon base. Very attractive of distinct form, held erect on fine stems. Blooms profusely.

**Each 35c**

**GEISHA**—Golden yellow, changing to red and again to yellow tips. A sure bloomer and most popular. 8 to 10 inches across.

**Each 50c**

**HELEN LADD CORBETT**—Beautiful, soft pinkish lavender of large size and perfect form. Long stems and very constant bloomer.

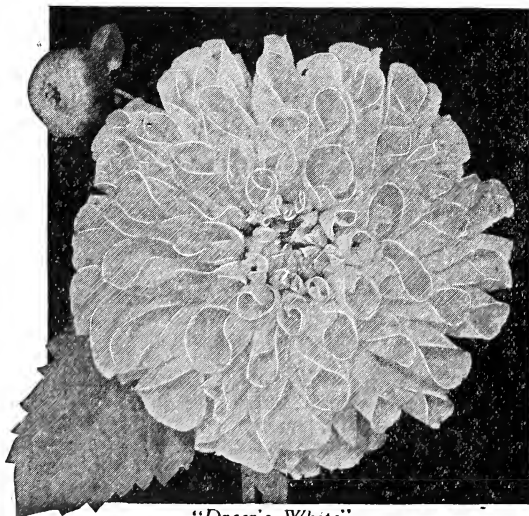
**Each 35c**

**KAKADEE—The Wonder from Scotland**—Hybrid-paeony dahlia of the greatest merit. The color is a most beautiful lemon yellow, changing to almost white at the tips. A large, attractive flower on very stout, erect stems. Plants are dwarf, needing no staking, tying, etc. One of the first to bloom and one of the last. A very lasting cut flower. By far one of the best dahlias we ever grew.

**Each 50c**

**KLONDYKE**—A beautiful orange buff; very long, erect stem; ideal, upright habit and free bloomer. One of the finest for cutting.

**Ea. 35c**



"Dreer's White"

**LIBERTY**—A most magnificent, new shade of salmon-scarlet. English novelty of enormous size, produced freely and erect on long stems. By far one of the best for any purpose we have ever grown.

**Each 50c**

**LAURA** (English Paeony)—Pale silvery rose. Very large flowers with broad twisted petals, on strong, erect stems.

**Each 75c**

**MADAM VON BYSTEIN**—A magnificent lilac lavender, changing to light blue.

**Each 50c**

**MAD. J. COISSARD**—Lovely blending of white with carmine red. French variety of greatest merit. One of the most lasting and attractive for cut flowers.

**Each 35c**

**MRS. JACK GREEN** (Paeony)—A very large and full flower on a strong stem. Color a beautiful shade of rich scarlet. A California Dahlia that the originator may well be proud of.

**Each 75c**

**ORIANA** (English Paeony)—An incomparable flower of rare beauty, on long strong stems. Color is pure rose. It is a free bloomer and no description can do it justice.

**Each 60c**

**OREGON BEAUTY**—Bright fiery scarlet with golden sheen. Free blooming.

**Each 35c**

**PHILADELPHIA**—Rich reddish-purple, suffused and marked with white.

**Each 35c**

**PACIFIC** (Paeony)—A California Dahlia of fine form and good stem. Color is beautiful pink, shaded and suffused yellow.

**Each 50c**

**QUEEN EMMA**—A bright pink with darker pink penciling and narrow yellow shading in center of petals.

**Each 35c**

**SAMOSSET**—Light yellow, slightly tinted salmon. Very large, perfect flower of true paeony form with small curly petals in center. Free flowering on erect stems.

**Each 50c**

**SOUVENIR DE MAASDIJK** (Paeony)—A very large salmon pink Dahlia from Holland with long strong stem. Very good.

**Each 75c**

**VAN DYCK**—Large graceful flower of lovely salmon pink with heliotrope suffusion

**Each 50c**

**WADAWANNOCK**—Bright coral red flower with broad, flat petals. A strong, healthy grower with large flowers, good stems.

**Ea. 50c**

**ZEPELIN**—Rich, bright lavender, largest size; well poised on big strong stems.

**Each 35c**

### SHCW

**FIRESTONE**—Bright vivid red. Fine for cutting.

**Each 35c**

**JOHN BENNETT**—Yellow, deeply edged scarlet; very free bloomer; desirable color.

**Each 35c**

**W. W. RAWSON**—Pure white overlaid with amethyst blue.

**Each 35c**

**DREER'S WHITE**—A magnificent white of largest size, great purity, long stems.

**Each 35c**

**A. D. LIVONI**—This grand old variety still remains the best pink of its type.

**Each 25c**

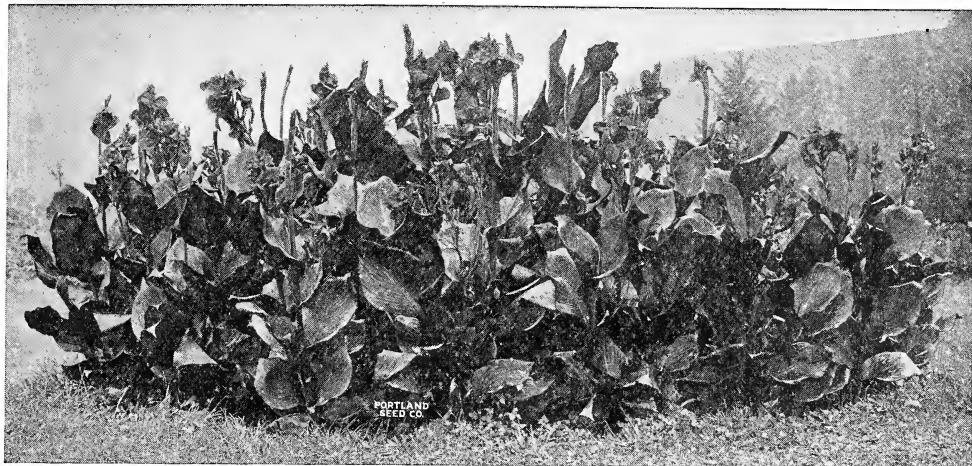
### NEW DECORATIVE

**PRES. LINCOLN**—(New Holland) dark purplish pink; long stiff stem; thick heavy foliage.

**Each \$1.00**



# CANNAS



**C**ANNAS require a rich, moist soil and should not be planted until all danger of frost is past. They are quick growers and the new flowering sorts bloom continuously until frost. Inexpensive, these charming ornamental plants produce rich tropical effects that cannot be excelled, and the varieties offered are equally valuable for the beauty of their bloom.

**PRICES, except where noted: Bulbs or plants in season, each 25c; dozen \$2.50, not postpaid**

**CITY OF PORTLAND**—A magnificent "Test-out," pink with salmon suffusion. Luxuriant green foliage, very vigorous and hardy.

**Each 35c, doz \$3.50**

**BUTTERCUP**—Pure bright yellow, Green foliage.

**FIREBIRD**—New. Considered the best red-flowered, green-leaved Canna. Flowers are fiery, bright red, borne in immense trusses. Height 4 feet.

**KING HUMBERT**—The mammoth flowers are a brilliant orange-scarlet, with bright red markings, foliage is broad and of a rich coppery bronze with brownish green markings; 5 to 6 feet.

**MAID OF ORLEANS**—Large flowers of rich cream color, shaded and mottled with pink. Bronze markings on the soft olive-green foliage make this variety one of the most attractive among the green-leaved sorts. 4½ feet.

**MRS. ALFRED F. CONARD**—Superb salmon pink flowers of large size, freely produced, very luxuriant green foliage; height about 4 feet.

**JUANITA**—A pleasing combination of terra cotta and chrome yellow. Flowers of splendid form. Bronze foliage. Height 4 feet.

**WINTZER'S COLOSSAL**—Without doubt the largest flowering Canna, the blooms measuring 8 inches across. Flowers are an intense vivid scarlet of the orchid flowering type. Foliage green; 5 to 6 feet.

**WYOMING**—Massive orange colored flowers of orchid shape with bronzy-purple foliage. Height 7 feet.

**YELLOW KING HUMBERT**—Identical with King Humbert in habit of growth. Beautiful yellow flowers dotted with red. Foliage green. Height 5 feet.

## Miscellaneous Ornamentals

**BAMBOO**—Ornamental plant, with almost evergreen foliage. Strong clumps, 3 to 6 feet.

**Each \$1.00 to \$2.00**

**PAMPAS GRASS**—Ornamental grass, easily grown, producing long, pointed leaves and majestic, silvery white plumes; 6 to 8 feet high.

**Strong roots, each 75c**

**Large specimen plants, \$2.00 to \$5.00**

**ST. JOHNS WORT (Hypericum Moserianum)**—Low growing with yellow blooms; a drought resister. July and August. **Clumps 50c**

**TRITOMA (Pfizeri)—Or Red Hot Poker**—Rich orange-scarlet, blooming from mid-Summer to latest Fall; spikes 3 to 4 feet high; winters best if lifted and stored in sand. Fine for borders or mass effects.

**Strong flowering roots, 25c; doz. \$2.50, postpaid.**

**YUCCA — Spanish Bayonet or Adam's Needle**—Bell-shaped flowers on laterals, forming a perfect pyramid; fine for rockwork. Height 2 to 3 feet.

**Filamentosa**—Thread leaved, creamy white; July. **Plants, 2 feet, each \$1.00 to \$2.50**





# GLADIOLI



**E**XQUISITE coloring, vigor, ease of cultivation and freedom from insect pests and diseases are making Gladioli universal favorites that should have a place in every garden. They come into bloom at a season when there are few other flowers.

**CULTURE**—Gladioli may be planted as early as the ground can be worked or as late as June. A sunny situation is preferred. Plant to a depth of 3 to 6 inches, depending on the size of the bulb. Largest bulbs are not always best, as some varieties do not produce large bulbs. Any garden soil will give satisfactory results, but if well enriched, cultivated and freely watered when bulbs first show, Gladioli will amply repay you for this additional care. If cut when the first bud opens and put in water, the flowers will open perfectly, keep for many days, and coloring is richer and more delicate than if left to open on plant.

## Beautiful New Gladioli

Prices F.O.B. Portland; if mailed, postage extra

**AMERICA**—Exquisite shade of flesh pink-tinted lavender. Each 6c, doz 60c, 100 \$3.50

**AUREOUS**—The largest, finest yellow. Deeper yellow center with dark red blotch. Each 20c, doz \$2.00

**BARON HULOT**—A brilliant indigo blue, free flowering and very attractive. Ea 10c, doz 90c

**BLUE JAY**—A true blue of great beauty, lighter in color and a larger, more attractive flower than Baron Hulot. A rare novelty. Each 35c, doz \$4.00

**"GLORY"**—A delicate cream pink tint with an attractive crimson stripe in the center of each lower petal. From 4 to 8 flowers open at the same time, petals are exquisitely ruffled and fluted. Each 10c, doz \$1.00

**GLORY OF HOLLAND**—White with inner throat slightly marked red, sometimes tinged delicate pink. Each 10c, doz \$1.00

**GOLDEN KING**—Bright sulphur yellow with an intense crimson patch on the lower petal. One of the best yellows. Each 15c, doz \$1.50

**HALLEY**—Salmon pink with creamy white blotch. Large flower and early bloomer. Each 10c, doz \$1.00

**LILY LEHMAN**—Brilliant light pink shading to blush white. Flowers resemble a lily. One of the best sorts. Each 20c, doz \$2.00

**MRS. FRANCIS KING**—Pleasing light scarlet; fine for forcing. Each 6c, doz 60c, 100 \$3.50

**MRS. FRANK PENDLETON**—A clear brilliant salmon pink with bright blood-red blotch in throat on lower petal. A superb flower of largest size. Each 15c, doz \$1.50

**DIAMOND MIXTURE**—Select named varieties with choicest Childs Hybrids. Each 7c, doz 75c, 100 \$5.00

**NIAGARA**—Lovely deep cream, shading to a canary yellow on the two lower inside petals. The giant flowers open freely; has broad, dark green foliage. Each 15c, doz \$1.50

**MEPHISTOPHELES**—A striking combination of red, black and yellow. Should be in every collection. Each 30c, doz \$3.00

**PANAMA**—A new seedling of America, identical except in color, which is much deeper pink. Spike long and the large flowers are well arranged. Each 15c, doz \$1.25

**PEACE**—Large flowers of good form; almost pure white; strong grower. Each 15c, doz \$1.50

**PINK PERFECTION**—Clear, soft pink. The large graceful flowers bloom freely. Most wonderful pink ever introduced. Ea. 15c, doz \$1.50

**PRIMULINUS HYBRIDS**—Dainty, lovely flowers of rare grace and beauty; in shades of yellow, orange, cream, and an occasional pink. Very distinct and attractive. Each 15c, doz \$1.50

**PRINCIPINE**—An intense scarlet, with white throat. Each 10c, doz \$1.00

**ROUGE TORCH**—A charming French variety. Blush with crimson, velvet throat, free and vigorous. Each 15c, doz \$1.50

**ROSELLA**—The lovely large orchid-like flowers are a dainty rose color, with purple and white markings. Each 15c, doz \$1.50

**WAR**—A deep, rich, velvety crimson self color. Many consider "War" the most striking Gladiolus ever produced. Our stock is extra fine, and everyone should plant them. Each 15c, doz \$1.50

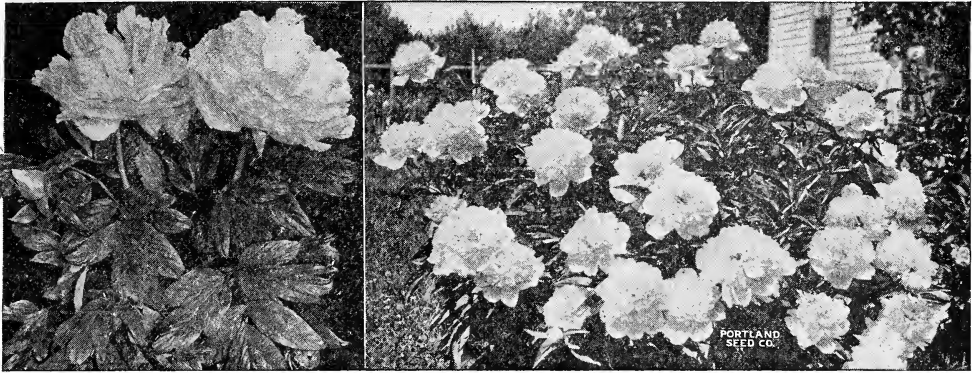
**WILLIE WIGMAN**—Creamy white with red throat, large. Each 10c, doz \$1.00

**GLADIOLI, FINE MIXED**—A large variety of fine flowers unequaled for the price. Each 5c, doz 50c, 100 \$3.00

**GLADIOLI** make splendid and attractive displays planted in the foreground of shrubbery—in groups on the lawn—in the perennial border or in combination with geraniums or cannas—and once planted will increase and bloom from year to year with very little attention.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

# PAEONIES—Double Herbaceous



**T**HE development and increase in popularity of the Peaony has been unparalleled among flowers, and the profusion and duration of bloom, combined with handsome, massive foliage, accommodating habit, and easy culture, render them one of the most popular hardy plants grown for lawn and garden decoration.

*Peaonies are always free from disease and insects do not bother them. They are hardy, thrifty growers, bloom freely, and nothing will add more to the beauty and attractiveness of the lawn.*

**CULTURE**—Peaonies may be planted in the Fall or Spring and a sunny situation is best, but they will do nicely in partial shade. While spring planting is very common, September and October are the best planting months, and Fall planted roots will bloom the following June.

**SOIL**—A heavy loam that holds moisture is the ideal soil and should be well prepared with a liberal supply of Bone Meal. Well rotted manure is necessary where the soil is deficient in humus, but should be used with caution as the Peaony is often destroyed by manure coming in contact with the crown. The roots should be set in the ground so the crowns are at least three inches below the surface. For permanent plantings Peaonies should be set from three to four feet apart each way.

**WATERING**—If the weather is dry during the growing period, water freely, being careful to avoid wetting the bulbs or flowers.

After blooming, the plants will require very little watering and the seed pods and old flowers may be cut off but the foliage should not be cut down until late Fall.

**Prices F.O.B. Portland; if mailed, postage extra**

**ASA GRAY**—Very large. Semi-double. Pale to deep lilac. Mid season. **Each \$1.25**

**AVALANCHE**—Very large and full, milky white, strong grower, fragrant. Mid season. **Each 75c**

**COURONNE D'OR**—Superb white flower; immense size, reflects yellow, center petals, bordered carmine, fragrant, vigorous; late. **Ea. 75c**

**DELACHEI**—Large, full flower of a deep rich crimson, purplish tone; very fragrant; medium to late. **Each 50c**

**DELICATISSIMA**—Light rosy apricot, sometimes margined carmine red. Mid season. **Each 50c**

**DUKE OF WELLINGTON**—Very large sulphur white; fragrant. **Each 60c**

**EDULIS SUPERBA**—Rose pink, delightfully fragrant. An early bloomer, ready for Decoration Day. **Each 60c**

**FELIX CROUSSE**—Full double, flaming red, good bloomer. Mid season. **Each \$1.00**

**FESTIVA MAXIMA**—Immense double flowers, pure white tipped or flaked with a small crimson spot at center. Early. **Each 60c**

**FLORAL TREASURE**—Large, very showy, pale lilac-rose, good for cutting. Mid season. **Each 75c**

**FRAGRANS**—Late; color deep rose; fragrant prolific bloomer; tall grower. **Each 50c**

**MAD. BREON**—Flowers outside flesh, center lemon, occasionally carmine tipped when first open; entire flower gradually changing to pure white. Early. **Each 60c**

**MADAME CALOT**—Large rose type; pale Hydrangea pink; fragrant; early. **Each \$1.00**

**MAD. DE VERNEVILLE**—Broad outside petals, sulphur white, with center rosy white, sometimes edged carmine, and beautifully imbricated. Early. **Each 60c**


**MARIE JACQUIN**—Rose white, fading to lilac white; wide incurved petals, showing an open center filled with yellow stamens like a water lily (midseason). **Each \$1.00**

**OFFICINALIS RUBRA**—Bright scarlet crimson; double and globular. Early. **Each 50c**

**POTTSI-ROSEA**—Rich deep rose, lighter center. **Each 50c**

**QUEENS PERFECTION**—Creamy white, large, full and attractive. Early. **Each 50c**

**RACHEL**—Dark vivid red; with a few golden stamens mixed in Corolla. Late. **Each \$1.00**

 Varieties not listed in our choice collection can be supplied to your order

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## PERENNIAL BORDER AND BEDDING PLANTS

**W**E offer well-rooted specimens that can be safely packed and promptly delivered in perfect condition. If you contemplate large plantings or special effects, let us know your plans and requirements. We can supply in any quantity for every requirement at lowest prices.

By proper arrangement cut flowers and a grand garden display can be obtained throughout the season. The great advantage in planting perennials is their permanency and the fact that they require so little care.

**PLANTS, Each, 25c; doz. \$2.50, F. O. B. Portland; if mailed postage extra.**

**ACANTHUS**—(Bears Breech)—Very ornamental, having a tropical appearance. The foliage being attractive, the leaves about 2 feet long and the rose colored flower spikes 3 feet high appear in August and September.

**ACHILLEA**—(The Pearl)—Pure white flowers, 2 feet high.

**ACONITUM** (Monkshood or Helmet Flower)—*Wilsoni*—Large dark blue flowers, 4 feet high, invaluable for semi-shady places.

**ALYSSUM SAXATILE COMPACTUM**—Bright yellow corymbs; showy Spring flowering plant—also flowers in Autumn.

**ANCHUSIA ITALICA**—Tall growing hardy plant, with pretty blue flowers in large racemes.

**ANEMONE JAPONICA**—Beautiful Fall blooming plants. Rose or white.

**ANTIRRHINUM**—(Snap Dragon)—Pink, Red, White, Orange, Bronze, Yellow Tall and Dwarf.

**AQUILEGIA HYBRIDA**—(Columbine)—An old favorite for Spring and early Summer. Blue, violet, pink. Fine for cut flowers.

**ARABIS**—(Rock Cress)—Very early Spring flowering plants especially adapted for edging and borders. Pure white flowers.

*Alpina Grandiflora*—Single.

*Alpina Flore Pleno*—

**ARMERIA**—(Sea Pink or Thrift)—Attractive dwarf plants that will succeed in any soil, forming evergreen tufts of bright green foliage, from which innumerable flowers appear in dense heads, on stiff wiry stems, from 9 to 12 inches high. They flower more or less continuously from early spring until late in the fall. Very useful in the rockery as well as in the border.

*Laucheana Rosea*—Bright rose.

**ARTICHOKE**—Ornamental garden plant, bearing edible buds that develop into giant thistle-like blooms.

**ASTERS, HARDY**—Among the showiest of late flowering plants. The colors are dainty blues, shades of red, pink and white.

**ASTILBE ARENDSI**—The plants are of very vigorous growth,  $2\frac{1}{2}$  to  $3\frac{1}{2}$  feet high, producing many-branched feathered heads of flowers in June and July. They prefer a half-shady, moist position in any ordinary garden soil.

*Salmon Queen*—Graceful panicles of a beautiful salmon pink.

**AUBRETIA**—Pretty dwarf growing rock plants, silvery-green foliage and sheets of flowers in early Spring and Summer.

*Bougainvillei*—Purple.

*Leichtlini*—Pink.

**BOCCONIA**—(Plume Poppy, or Tree Celandine)—*Cordata*—A noble, hardy perennial, beautiful in foliage and flower, admirably adapted for planting in the shrubby borders, centre of beds and in bold groups in almost any position. It will grow in any soil or situation, attaining from 6 to 8 feet in height; flowers in terminal panicles, of a creamy-white color during July and August.

**CANTERBURY BELLS**—Pink, white, blue large clumps.

**CENTAUREA**—(Hardheads or Knapweed)—Of easy culture, delighting in an open, sunny position, producing a wealth of bloom, which not only makes a fine display in the border, but is excellent for cutting.

*Dealgata*—Distinct bright rose-colored flowers; July to September; 18 inches.

*Macrocephala*—Large thistle-like golden-yellow flowers; useful for cutting and showy in the border; July and August;  $3\frac{1}{2}$  feet.

*Montana*—(Perennial Corn Flower)—Grows 2 feet high, bearing large violet-blue flowers from July to September.

*Alba*—Large white variety of the above.

**COREOPSIS**—(Golden Sunbeams)—Beautiful golden-yellow; fine for cutting.

**DAISIES GIANT**—Pink and white.

**DIANTHUS**—(Hardy pink).

**DORONICUM**—Early Spring Marguerite-like yellow flowers. Fine border plant.

**ECHINOPS**—(Globe Thistle)—*Ritro*—Thistle-like plant with globular heads of deep metallic blue flowers, which can be dried. Flowers in August. 2 to 3 feet.

**ENGLISH PRIMROSE**—Finest sorts, from pure yellow to deepest crimson-maroon; early, low-growing, fragrant.

**FOX GLOVE**—(Digitalis)—Tall Gloxiana Flowered. Mixed.

**GAILLARDIA**—(Blanket Flower)—*Grandiflora Maxima*—Combination coloring of yellow, brown, crimson, orange; height 2 feet; blooms until frost; fine for cut flowers.

**GEUM**—(Atrocium)—A splendid bed or border plant—18 to 24 inches—bearing freely dainty little double red flowers.



## Hardy Perennial Garden Plants—Continued

**GYPSOPHILA**—(Baby Breath)—*Paniculata*—Single and double; thrives during driest weather; elegant rock plants and very useful for cut flowers.

**HELENIUM**—(Sun-bridle or Sneezewort)—very desirable border plant, broad spreading heads of flowers, useful for cutting. Red, yellow, brown.

**HELIANTHUS**—(Hardy Sunflower)—Effective hardy plants for large borders and planting among shrubbery. Flowers golden-yellow.

*Multiflorus Maxima*—Golden-yellow flowers, July to August.

**HELIOPSIS**—(Orange Sunflower)—July and August. Similar to *Helianthus* but earlier. Dwarf habit, fine for cut flowers.

*Pitcheriana*—Beautiful deep golden yellow flowers about two inches in diameter.

**HEUCHERA SANGUINEA**—Dainty alpine plant requiring shade of a rockery or fernery. The bell-shaped coral red flowers are borne on wiry stems about 18 inches.

**HOLLYHOCKS**—Good soil required, work in well rotted manure; water during dry weather. **New Double and Single**—Red, yellow, pink, and white.

Large clumps.

**MYOSOTIS**—(Forget-me-not)—*Dissitiflora*—Little blue star-like flowers. Useful for borders and half shady places.

**PENTSTEMON**—(Beard Tongue)—*Hybridum*—Large Gloxinia-like flowers, in all colors from white to deep crimson, 2 to 3 ft. high.

**PHYSOTEGIA**—(False Dragon-Head)—One of the most beautiful of our midsummer flowering perennials, forming dense bushes 4 to 6 feet high, bearing spikes of delicate tubular flowers not unlike a gigantic heather.

*Virginia*—Bright but soft pink.

**PYRETHRUM**—(Persian Daisy)—Of easy culture in any garden soil where there is good drainage and full exposure to the sun. They prefer to be undisturbed for two or three years, bloom in June—*Hybridum*.

**RUDBECKIA**—(Golden Glow)—Bears in profusion immense double blooms of the brightest, golden yellow; hardy everywhere.

**SCABIOSA**—*Caucasica* (Blue Bonnet)—Handsome border plant. A soft shade of lavender, blooms June to Sept. Stems 18 to 24 inches.

**SEDUM**—(Stone Crop)—Suitable for rockery, carpet bedding, etc.

*Album*—Green foliage and white flowers.

*Lyodium Glaucum*—Glaucous foliage.

**SOLIDAGO**—(Golden Rod)—The varieties offered below are the most desirable of our native Golden Rods.

*Canadensis*—Grows 4 to 5 feet high, with spikes of golden-yellow flowers from the end of July until September.

**SHASTA DAISY**—(Alaska)—Immense, fluffy white blooms, with golden eyes, from July to late Fall; fine for cutting; splendid border plants.

**STATICE**—(Sea Lavender)—Valuable for border or rockery, with tufts of leathery leaves and immense candelabra-like heads. They last for months when cut and dried. Bloom June to September.

*Incana*—White minute flowers.

*Latifolia*—Minute purplish blue flowers.

**STOKESIA**—(Cornflower Aster)—*Cyana*—Handsome lavender blue cornflower-like blossoms which measure from 4 to 5 inches across. Desirable as a single plant or grown in beds 18 to 24 inches high, June to Sept.

**SWEET WILLIAM**—Old favorites for beds and borders, assorted colors.

*Newport Pink*.

**VALERIANA**—(Garden Heliotrope)—Decorative plant for the rockery, with strong heliotrope odor.

*Officinalis*—Rose tinted white flowers during June and July.

*Coccinea Rubra*—Rose-pink flowers; blooms in May; 2 feet high.

*Coccinea floralba*—Pure white flower tufts.

**VERONICA REPENS**—(Creeping Speedwell)—Slender compact plant with blue flowers. Thrives in the sun where grass will not grow. Fine for rock work.

**VIOLA**—Fragrant plants which grow in half shady places and begin to flower early in the spring. Double and single—colors violet, blue or white.

**WALLFLOWER**—Dark and light; single and double; mixed; good subjects for rock garden and Spring bedding.

**WATER LILIES**—*Nymphae*—Hardy, white. Single roots 35c each; large roots 75c to \$1.50 postpaid.

## Larkspur—Delphiniums

**HARDY LARKSPUR**—One of the most beautiful and useful border plants; vigorous, free-blooming and hardy. The varieties we can supply are among the best.

**Named Varieties**—Fine large 2-year clumps. Ea. 25c; doz. \$2.50. Mixed, ea. 20c; doz. \$2.00

Prices F.O.B. Portland; if mailed, postage extra

**DELPHINIUM FORMOSUM**—Dark blue with white center.

**DUKE OF CONNAUGHT**—Large flower of bright velvety-blue with inner petals of rosy-lavender, eye nearly black.

**KING OF DELPHINIUMS**—Giant semi-double flowers, deep blue with white eye.

**MASTERPIECE**—Lovely deep gentian-blue and plum. Reflexed flowers of immense size. Tall.

**PERFECTION**—Sky-blue petals suffused with rosy-lilac. Semi-double. Branching habit.

**TRUE BLUE**—Intense deep blue with black eye. Single flowered tall sort. One of the finest.



## PERENNIAL PHLOX

**H**ARDY everywhere. The marvelous new colors, beautiful foliage and easy culture make this choice flower one of the most desirable for beds, borders or lawn groups where permanent effects are desired.

Each 25c, doz \$2.50

**ANTONIN MERGIE**—Medium; light ground color; upper half of each petal deeply suffused bluish-lilac, large white halo.

**ATHIS**—Tall magnificent salmon pink, free and continuous bloomer.

**COQUELICOT**—Scarlet, crimson eye; dwarf.

**DIADEM**—Large flowering, pure white—dwarf.

**ELIZABETH CAMPBELL**—Medium height; bright salmon-pink with lighter shading and dark crimson eye.

**EUROPA**—Medium; immense trusses of pure white with distinct crimson eye.

**GOLIATH**—Truly a giant in growth; color bright crimson carmine, deeper eye.

**GEO. A. STROHLEIN**—Medium bright scarlet with crimson red eye; does not bleach.

**HUXLY**—Medium; a beautiful lavender.

**JEWEL**—Dwarf; bright mauve rose with carmine red eye. Superior to Asia.

**MME. PAUL DUTRIE**—Tall; delicate lilac rose reminding one of beautiful soft pink Orchids.

**MRS. JENKINS**—The best tall early white for massing.

**RHEINLANDER**—Very large bright salmon-pink florets in large panicles. Tall growing.

**R. P. STRUTHERS**—Tall, rosy carmine, with claret-red eye; fine.

**SELMA**—Tall; large flower; pale rose mauve with claret eye.

**SUNSHINE**—Dwarf; large, aniline-red with crimson-red eye and light halo.

**THOR**—Dwarf; beautiful rich salmon-pink with scarlet suffusion; eye aniline red with light halo.

**VON LASSBURG**—Medium; one of the largest flowered purest whites in cultivation.



### Phlox for Rock Work

**PHLOX SUBULATA**—(Moss or Mt. Pink)—Early Spring flowering; useful for carpet bedding; cemetery planting or rockeries.

**PHLOX DIVARICATA CANADENSIS**—Blooms early April, has large, beautiful lavender flowers; grows 10 inches high.

### Sweet Violets

Single

Price each 20c; 6 sorts, \$1.00, Postpaid.

Double.

**BARONESS ROTHSCHILD**—Similar to Princess of Wales, but blooms more freely.

**CALIFORNIA**—Very showy flowers of enormous size, deep violet blue; deliciously fragrant.

**PRINCESS OF WALES**—Gigantic flowers, of a very rich shade of blue, extremely fragrant.

**LADY HUME CAMPBELL**—Beautiful light blue, very free-blooming, exquisitely fragrant.

**MARIE LOUISE**—A constant bloomer, producing large flowers, lovely deep violet purple.

**SWANLEY WHITE**—The finest and best double white violet in cultivation.

### Oriental Poppy

The most brilliant and gorgeous of all garden plants; is hardy and succeeds well in any good garden soil, blooming in May and June, they are dormant thereafter until cool weather. We offer two rare and beautiful new sorts, besides the standard red type and hybrids. **Each, 25c; doz. \$2.50**

**ORIENTAL POPPY**—Red. The old time favorite.

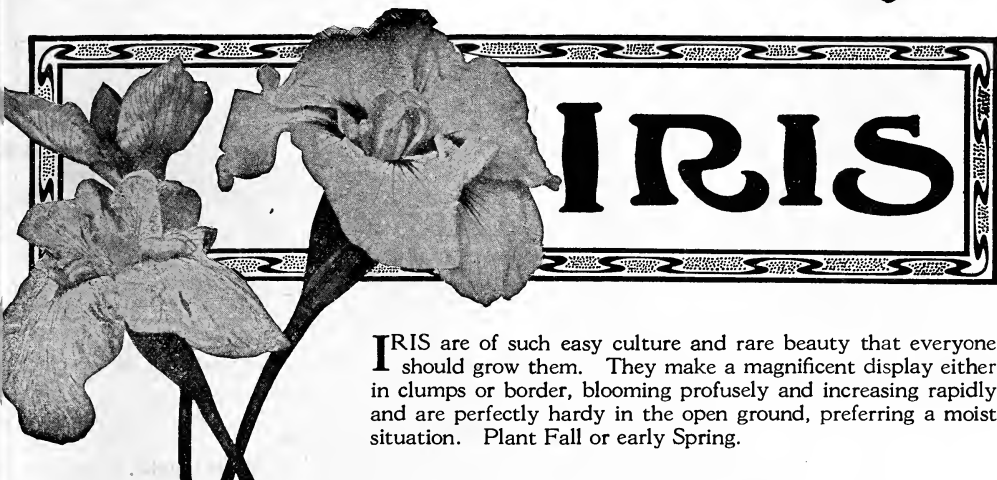
**PERRY'S WHITE**—A splendid novelty of the greatest merit. Pure satiny white with brilliant crimson marking at base of petals.

**SALMON QUEEN**—Rich salmon-pink with coppery orange suffusion; deepest purplish black center and markings. A rare and splendid flower of largest size; vigorous and free blooming.

Items on this page are F. O. B. Portland. If mailed, postage extra, unless otherwise stated.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG





**I**RIS are of such easy culture and rare beauty that everyone should grow them. They make a magnificent display either in clumps or border, blooming profusely and increasing rapidly and are perfectly hardy in the open ground, preferring a moist situation. Plant Fall or early Spring.

### Japanese Iris (Iris Kaempferi)

Japanese Iris are unsurpassed for their brilliant and varied colorings, producing effects that are truly marvelous. Blossoms early summer. Plant three inches deep, about four inches apart; divide the clumps every two years. Fertilize established beds while dormant, using stable manure, but do not apply after growth starts.

 We have listed most Japanese Iris under their colors as the names are meaningless to the average grower and are soon lost or confused

**APOLLO**—A wonderful pure white of good substance and graceful form.

**HELEN**—Beautiful violet red with white center.

**BLUE**—A splendid, large, free flowering true blue.

**SILVER WHITE**—A charming flower, suffused and veined with a soft shade of light blue.

**PURPLE**—A dark, rich shade of royal purple.

**LILAC**—A dainty light lilac heavily veined with purple.

**CRIMSON PURPLE**—Fine large purple flower overlaid with bright crimson.

**PURPLE MAROON**—A deep pleasing shade of purple with maroon suffusion.

### Double Varieties

**DARK VIOLET**—Large, shapely flower, beautifully veined and shaded.

**BLUE JAY**—Tall, rich blue suffused with crimson.

**DARK BLUE**—Brilliant deep blue.

**WHITE**—Lovely form, large white flower. Very early.

**PRICES:** Strong roots, each 35c; per dozen \$3.75

F.O.B. Portland; if mailed, postage extra

### Hardy Iris

Hardy Iris is one of the best of the early Spring flowers, is hardy everywhere, and if planted in a moist situation or watered freely, will produce magnificent orchid-like blooms of great size and delightful fragrance. Comes in charming color effects in **blues, browns, yellows, purples, white.**

**FAWN**—A charming soft fawn yellow.

**GOLDEN YELLOW**—A deep rich golden yellow, very pleasing.

**LOUISE**—Sulphur yellow of a bright clear shade. **Each 35c, Doz \$3.00**

**WHITE VIOLET**—A rare and beautiful combination, being pure white with lovely violet falls.

**LIBERTY**—(New)—A wonderful new bright azure blue superior to the popular Pallida Dalmatica. "Liberty" is a sport from "Juanita," is a very vigorous and free flowering variety often having 8 to 12 blooms on a stalk with stems 3 to 5 ft. **Each 35c, Doz \$3.00**

**PALLIDA DALMATICA**—Extra large, lovely true lavender, delightful fragrance, free flowering, fine for massing or as a cut flower.

**MADAM CHERAU**—Large white, dainty frilled blue edge.

**LOHENGRIN**—Beautiful Cattleysa rose, a large, graceful flower. **Each 35c, Doz \$3.00**

**PRINCESS ROYAL**—Soft rose lilac, an unusual and attractive shade.

**QUEEN OF MAY**—A fine bright rose color. Early.

**FLORENTINA ALBA**—Dwarf snow white, best of its class.

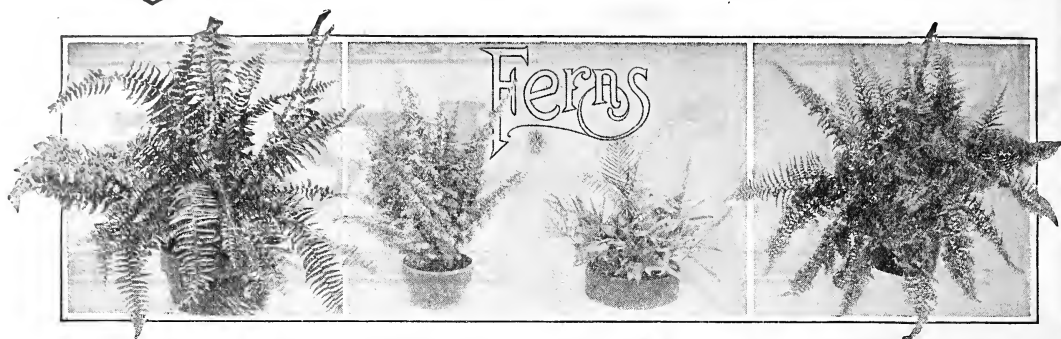
**HER MAJESTY**—A rich dark bronze color of great beauty.

**PRICES:** Except as noted, Strong roots, each 25c; per dozen \$2.50

F.O.B. Portland; if mailed, postage extra

 *Spanish Iris could not be supplied this season, owing to importing restrictions*

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



**W**E offer a splendid list of Ferns, including some of the newest varieties as well as the older sorts. Florists wishing stock of the new varieties write for prices.

### Nephrolepis or Boston Ferns

Price, small plants 30c; from 4-inch pots, 75c; 5-inch \$1.50, postpaid.

Specimen plants \$1.50 to \$3.00, F. O. B. Portland.

**N. AMERPOHLII**—"Lace Fern," beautiful and attractive "sport" from the Boston Fern. Is finely "crested"; has fluffy lace-like appearance.

**BOSTON FERN**—This is the original and well known type of "Sword Fern."

**TEDDY JUNIOR**—New Dwarf Fern. A sport from the famous Roosevelt Fern. Compact in form, and a rapid grower, producing about four times as many fronds as any other fern.

**N. ROOSEVELT**—Resembles Boston Fern, produces more fronds, making a bushier plant.

**SCOTT FERN**—(*Nephrolepis Scottii*)—Identical with the original Boston type, but is dwarfed with a more compact and bushy habit of growth.

**OSTRICH PLUME FERN**—(*Nephrolepis Whitmani*)—Beautiful new sport from the well known Boston Fern.

### New and Popular Ferns

**ASPARAGUS SPRENGERII**—(Emerald Feather)—Handsome evergreen trailing plant; its beautiful sprays of lovely green, feathery foliage can be cut freely.

Nice plants, each 20c; large plants 35c to 50c

**PTERIS ARGUTA**—(Silver leaved)—A fine fern highly valued for house decoration.

Each 30c; larger plants, 50c

**ASPARAGUS PLUMOSUS**—(Climbing Lace Fern)—A finer and more delicate plant than the Sprengeri, but hardy and easily grown.

Nice plants, each 25c; large plants 40c to 75c

**MAIDEN HAIR**—(*Adiantum Croleianum*)—Very valuable to florists for cutting, grows freely under almost any condition inside.

Good plants from 4-inch pots, \$1.00 postpaid  
**FOR FERN DISHES**—Attractive assortments, sufficient for 5 to 6-inch pans.

\$1.00 to \$1.50 postpaid

### SPECIAL—Six Fine Table Ferns for \$1.25

Price 25c each, 6 sorts for \$1.25. Extra large plants 40c each, postpaid.

**ADIANTUM CUNEATUM**—Maiden Hair Fern. A very beautiful and graceful fern.

**ASPIDIUM TSUSSIMENSE**—Valuable for fern dishes; of dwarf graceful habit.

**BOSTON FERN**—See description above.

**CYRTIUM FALCATUM**—(The Holly leaved fern)—Hardy, dark green foliage.

**PTERIS CRETICA ALBO-LINEATA**—A pretty and useful variegated variety.

**OSTRICH PLUME**—See description above.

### PRIMROSES

**PRIMROSES, NEW GIANT OBCONICA**—A lovely perpetual blooming primrose. The crisp green leaves spring up luxuriantly amid which appear, all season through, stout little stalks, each surmounted by a pretty cluster of lavender-pink flowers several inches across. One of the finest winter blooming house plants for a cool room.

Price 25 cents each. Larger plants, 40 and 60 cents each. Add 10c if postpaid.

**PRIMROSES, CHINESE FRINGED**—These are easily grown in a cool room, delighting in a light sandy soil. The flowers are fringed, of fine size, produced in trusses well above the fresh lively green foliage which of itself is very handsome. Can be supplied in three colors, red, pink, white.

Price, 25 cents each. Larger plants, 40 and 50 cents each. Add 10c if postpaid.

## PALMS AND ORNAMENTAL PLANTS

**P**ALMS lend their surroundings an atmosphere of elegance and completeness, and with proper care will thrive in any home, making the most magnificent and useful decorative plants.

**CARE OF PALMS**—Good garden loam, with a little sharp sand, is the best soil for palms, and good drainage is of first importance—do not keep a palm too wet. If you set the pot in a jardiniere put something under the pot to let the water drain through. Never let the water stand around the bottom of the pot. Water thoroughly, but let it drain off, then when the soil begins to look dry give another good wetting. It is important to keep the soil of any pot plant moist—clear through—but not wet like mud. One other important point: Soil must have light; palms and some plants would do well without strong light, but the soil would soon sour and fail to nourish them, therefore, when not actually in use keep them as near the windows as possible, but not in the hot sun.

Bone meal is the best fertilizer; a tablespoonful to a 7-inch pot is a good portion. Dig well into the soil. Apply when new growth shows. Do not repot as long as they are doing nicely. And when you do, transfer gently to the larger pot and fill the soil around the roots, disturbing them as little as possible. Palms do best in comparatively small pots. Shower them with water twice a week and should they show signs of scale, wash with strong soap and water or kerosene emulsion (a pound of soap melted with a half pint of kerosene thoroughly stirred into it). Dilute this with ten parts of water and apply with a cloth or brush.

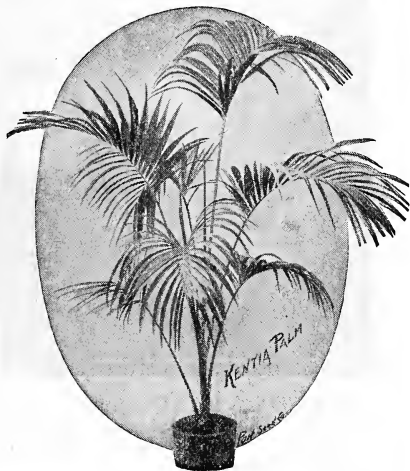
**PHOENIX ROEBELENI**—A new and graceful miniature "Phoenix" fully equaling in beauty the Cocos Weddeliana, hardy as the Kentia. Of vigorous, bushy growth.

**Choice plants, from 6-inch pots, \$2.00 to \$4.00**

**KENTIA BELMOREANA**—A beautiful, strong growing Palm with deep green, crisp foliage; inclined to dwarf and spreading habit; one of the most popular for house culture, as they are very hardy.

**Small plants, \$1.00. Large plants, 18 inches up, \$1.50 to \$5.00 and up.**

**COCOS WEDDELIANA**—The most graceful of all Palms; finely cut foliage of rich deep green; we have fine plants of this most desirable Palm, well established in 4-inch pots, 5 to 7 leaves. **Each 75c.**



### Aspidistra

Ornamental foliage, plant throwing up shoots which unfold, developing into long, graceful leaves; color a beautiful dark glossy green; give same treatment as hardy palm.

**VARIEGATED**—Rich, creamy markings.

**\$2.50 up**

### Parrots Feathers

Produces long trailing sprays of lovely green, finely cut foliage set in symmetrical whorls; plant in a water tight vase or hanging basket, keeping water standing over the soil surface.

**Good roots, each 25c; doz. \$2.50**

### Umbrella Plant

**CYPERUS**—(*Alternifolia*)—A splendid house plant of easy culture; resembles a palm; requires little or no attention, and remains green throughout the year. Keep well watered.

**Plants, postpaid, each 25c to \$1.00**

### Dracaenas

**D. INDIVISA**—This is the popular hardy Dracaena that is used so extensively for centers of vases, baskets, boxes, etc. Of graceful form, and stands full exposure to sun.

**4-inch pots 60c; 5-inch pots \$1.00**

### Rubber Plant

**FICUS ELASTICA**—This is certainly one of the best plants grown for decorative purposes; it succeeds well with ordinary treatment.

**Large plants, each, \$2.00 to \$3.00**



*Umbrella Plant*

**Prices on this page F.O.B. Portland; if mailed, postage extra**

**Diamond Plant Food** *For Ferns, Palms and House Plants. Clean, Odorless, Highly Concentrated. A complete, powerful fertilizer, wonderfully invigorating to all plants; producing luxuriant foliage and larger and more brilliant flowers. A 40c package will feed a dozen large plants a whole year. Special instructions on each package.*

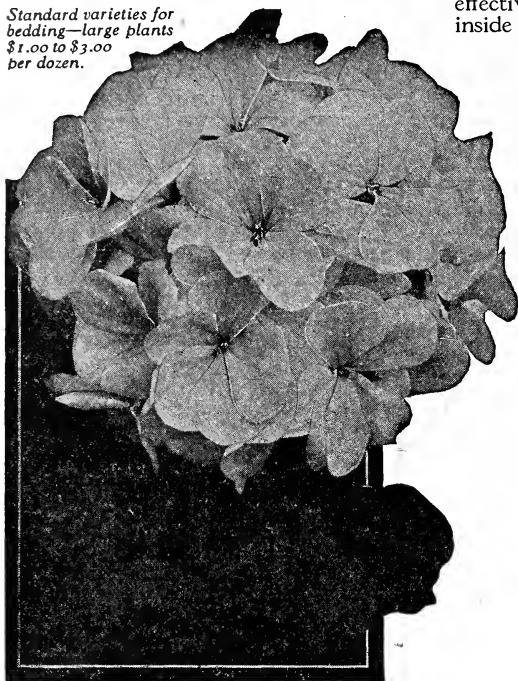
**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



# GERANIUMS

**G**ERANIUMS are undoubtedly the most popular bedding plant of the time. Their free rapid growth and continuous blooming qualities keep them in the front rank among the long list of bedding plants. Beds of one color or variety have been very popular of late years, being very effective in all garden efforts, and for Winter flowers inside nothing is more satisfactory. They are of the easiest culture, requiring to be kept cool and given plenty of air, with an occasional sprinkling of the foliage to clean and freshen it. Keep the roots moist, not too wet, and have good drainage in the pots. No other flower can take their place as a bed or border plant, and inside they grow beautifully throughout the year, making cheery house plants.

Standard varieties for bedding—large plants \$1.00 to \$3.00 per dozen.



Our list of varieties include a number of rarely beautiful novelties as well as the very best standard sorts, and prices are so low as to place them within reach of everyone.

## Rare Novelties—Single Geraniums

Price 20c each, set of 8 sorts \$1.25

**FREDERICK PLESSIS**—Large trusses of well rounded florets. Color light scarlet shaded to large, white center, very striking.

**JEAN LIONETT**—Grand trusses on stout, heavy flower stalks. Color reddish purple, each floret maculated with orange in the center. Very distinct and beautiful.

**LUCILE HILL**—Long upright stems; large trusses of beautiful ruffled form; perfectly circular florets of largest size; rich salmon shaded with rose, an excellent grower.

**MARQUIS DE LONQUEIL**—Rich geranium red shaded to light carmine with very large white center. Large trusses on fine strong stems.

**MME. REYNARD**—Profuse bearer of fine trusses of bloom; rosy-amaranth, upper petals shaded flame scarlet, distinct white eye. A grand new sort.

**ROMILDA VICINI**—White ground overlaid with light rosy-salmon with a reticulated effect. Upper petals feathered with crimson. Novel colorings

**ROSAMIE**—Large trusses of fine flowers; delicate rose color, reverse of florets clear violet, the whole maculated with white. An excellent new sort.

**PIERRE VIERGE**—Light salmon shaded and reticulated with white. One of the freest blooming sorts we have seen.

## Twelve Fine Single Geraniums

Price 20c each, set of 12 sorts \$2.00

**ALBION**—Beautiful free flowering white variety as pure as driven snow. Always in bloom.

**C. W. WARD**—Rich salmon shaded to orange, magnificent zoned foliage.

**EUGENE SUE**—Odd shade of russet orange, very distinct.

**JACQUERIE**—Rich, vivid crimson, immense trusses.

**MAXINE KAVOLENSKI**—Odd shade of orange red; very distinctive, splendid bedder, vigorous, handsome; a dependable sort.

**MADAME CHAPOTAN**—Delicate light pink flowers in very large trusses; handsomely zoned foliage.

**MADAME MOSNAY**—Peculiar shade of carmine-lake, shaded to violet and white. Very distinct and striking.

**METEOR**—Brilliant crimson maroon. A magnificent bedding variety.

**MILDRED RIVAL**—Pure rose pink, with conspicuous white blotch on two upper petals.

**MRS. A. BLANC**—Silvery salmon shaded to peach; one of the richest colored sorts.

**MRS. E. G. HILL**—Very large trusses of single florets; color clear salmon, with a white center.

**NUIT POITEVINE**—Trusses and florets of grand size; rich, rosy violet; the upper petals feathered with scarlet at their base. Very distinct and much admired.



## Rare Novelties—Double Geraniums

Price 25c each, set of 8 sorts \$1.50

**BARON DE MONTAL**—Color rich rosy-magenta shaded fiery red at base of upper petals. Fine, healthy growing sort of great beauty.

**BLANCAFLEUR**—Fine new double white with flowers of wonderful purity of color. Sturdy growing and free blooming.

**EUGENE CARRIER**—Enormous semi-double florets of rich copper color shaded salmon-rose. Robust growth, trusses immense in size.

**ERNEST CHEBROUX**—Very large trusses of rich bright cerise colored flowers, each floret with large distinct white eye.

**ELECTRE**—Rich, deep cerise shaded vinous rose, upper petals dashed with white at their base. Dwarf, compact growing and charming for bedding.

**LOUIS MAZIEUX**—Brilliant vermillion scarlet with prominent white markings at base of petals; very distinct.

**PIERRE COURTOIS**—Velvety purple spotted with light violet. A rare color among Geraniums.

**VIRGINIA**—Delicate daybreak-pink shaded dainty-rose with large white center. Large trusses on strong stalks. Very beautiful.

## Twelve Fine Double Geraniums

Price 20c each, set of 12 sorts \$2.00

**ABBIE SCHAEFER**—Beautifully formed florets in fine large trusses, rich scarlet crimson of velvety texture.

**ALPHONSE RICARD**—Immense trusses of large round flowers of the most vivid scarlet.

**BEAUTE POITEVINE**—Very large, semi-double flowers of a brilliant salmon color. One of our best sorts.

**EDMOND BLANC**—Large trusses of rich purplish violet flowers borne in greatest freedom. One of the finest dark colored sorts.

**JEAN VIAND**—Soft rose color, shaded to white. Magnificent bedder.

**MADAME CHAROTTE**—Rosy salmon shaded and reticulated with white.

**MADAME LANDRY**—Distinct salmon pink. Lightly shaded scarlet. Magnificent trusses.

**MARQUISE DE CASTELLANE**—Rich solferino carmine of great brilliancy. Immense trusses, robust grower, free bloomer.

**MME. RECAMIER**—Snow white; strong vigorous grower; flowers abundantly produced in large trusses.

**MRS. GLADSTONE**—Pure white flushed and bordered with rose-pink. A most beautiful variety.

**MRS. LAWRENCE**—Beautiful satiny pink shaded to white; a gem among geraniums.

**S. A. NUTT**—The best of the rich, dark crimson varieties; trusses massive.

## Ivy Leaved or Trailing Geraniums

These are unexcelled as basket or window-box plants, as well as being useful in bedding, covering the ground quickly with their deep green, ivy-shaped leaves and brilliant colored flowers.

Price 20c each, set of 6 sorts \$1.00

**BALLADE**—Large double flowers of a tender lilac color, feathered with crimson.

**GARDEN GLORY**—Brilliant scarlet, upper petals veined crimson; rich and attractive.

**CHARLES TURNER**—Brilliant pink, approaching scarlet. Upper petals nicely feathered maroon. Large trusses. Best of all ivy geraniums.

**COLONEL BADEN POWELL**—The nearest approach to a pure white variety in this class of geraniums. Fine large trusses.

**INCOMPARABLE**—Exquisite shade of rosy-carmine, sturdy growing and free blooming.

**MRS. HAWLEY**—Soft rose-pink of silvery appearance. A beautiful variety.

## Pelargoniums—Lady Washington Geraniums

Price 25c each, set of 6 sorts \$1.25

**BRIDEGROOM**—Silvery rose veined crimson, with dark purplish maroon blotches on upper petals. A wonderful bloomer.

**COUNTESS OF OXFORD**—Bright scarlet richly mottled and veined with crimson. Prominent maroon blotches on upper petals.

**DUCHESS OF PORTLAND**—Large round flowers vinous cerise shaded to vermillion. Upper petals darkly blotched and veined.

**EASTER GREETING**—Remarkable for its free blooming proclivities, equally as fine bedder as a pot plant. The flowers are of a fiery amaranth red, each petal distinctly blotched maroon. A novelty of the greatest merit.

**FAIR MAID**—Lower petals white flushed light pink; upper petals blackish maroon surrounded with crimson and bordered white.

**MADAME VIBERT**—Flowers bright red blotched with black and maroon and edged with pink and white.

## New Heliotropes

Price 15c each, set of 4, 50c, postpaid

**ALBATROSS**—Elegant dwarf, bushy growing new variety of great merit; large panicles of pure white flowers in great profusion all season; the best white variety to date.

**HEAVENLY BLUE**—Large, close panicles of exquisite light blue flowers, with a white eye. Grows vigorously and flowers abundantly.

**LAVENDER QUEEN**—Enormous florets, very large trusses of bloom; color, a beautiful shade of lavender, suffused with rosy mauve. A dwarf robust grower and free and continuous bloomer.

**ROYAL PURPLE**—Very large and fragrant; color deep violet purple, with white eye; very floriferous; highly recommended for bedding. \$1.00 per dozen.





## Choice Novelties in Carnations

**C**ARNATIONS will thrive in any good fresh garden soil. After danger of frost is over, set 10 to 12 inches apart each way, cultivate and water as needed until they begin blooming, then mulch with light manure that has straw in it; plants should be staked or strung to support them. Carnations are easily grown in the house for Winter flowers.

**Price 25c each, set of 6 sorts \$1.25**

"American Carnation Culture" Lamborn  
\$2.00 Postpaid



**ALICE COOMBES**—A beautiful new ever-blooming carnation of robust erect growth. Silvery rose-pink in color so greatly admired in this class of plants.

**BELLE WASHBURN**—Very large bright scarlet flowers finely fringed and very fragrant. Free blooming, sturdy branching grower. Believed to be the finest scarlet sort yet produced.

**GOOD CHEER**—Large, handsome, well built flowers of a rich shade of deep pink, tinted with carmine. Remarkably free in bloom for such a large flowered sort.

**MATCHLESS**—A wonderful new white variety produced by a famous hybridizer of New York State. Large, massive flowers on strong upright stems. Sweetly perfumed.

**PRINCESS DAGMAR**—A grand new ever-blooming carnation, producing very large flowers of a rich crimson maroon color. Its rich, velvety color is immensely popular.

**PINK SENSATION**—Very large, heavily fringed flowers with exquisite fragrance. Color pure rose-pink with silvery shadings. Rank growing variety with long straight stems and leathery blue-green foliage. A superb new American seedling.

 **Field Grown Carnations for Forcing—for Delivery in Season**

### Standard Everblooming Carnations

**Price 20c each, set of 12 fine varieties \$2.00 postpaid**

**ALICE**—Large nicely fringed, well formed flowers on stout stems. Color light pink with silvery shadings. One of the best sorts we have.

**BEACON**—A bright, deep scarlet; a most perfect color, soft yet brilliant; the flower is of the largest size and perfectly double; nicely fringed; sweet.

**BONORA**—A beauty; fancy variety of fine size and form, borne on long, stout stems. Color white flaked and splashed with red.

**ENCHANTRESS**—Flowers very large, borne on long stems. The color is a superb shade of flesh pink. An early and continuous bloomer.

**HERALD**—Flowers very large and massive with finely fringed petals and strong calyx. Stems long and very stout; color bright rich scarlet. A true everbloomer.

**LADY BOUNTIFUL**—Pearly white flowers, produced on strong wiry stems. Nicely fringed and very fragrant.

**MRS. ACKHURST**—Bright salmon pink flowers of the largest size, most perfect form and nicely fringed. Very fragrant.

**MRS. C. W. WARD**—Simply superb, both in form and color; brilliant dark pink, of immense size.

**PHILADELPHIA**—Greatly admired for its beautiful soft rose-pink flowers. Very delicate and pretty.

**POCAHONTAS**—Rich crimson-maroon flowers of fine size and build. Rarely beautiful variety.

**WHITE ENCHANTRESS**—A pure white sport from the famous variety Enchantress, having the same general habit and characteristics.

**VICTORY**—Intense scarlet of great brilliancy. Strong stout stems, holding the flower upright. One of the best sorts of its color.

### Florists' Supplies

We Carry a complete line of high grade stocks at prices so reasonable that you cannot afford to "Go East" for them.

Write us your requirements or send in a trial order.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

## Twelve Finest Exhibition Chrysanthemums

Price 15c each, set of 12 sorts \$1.50 postpaid

**CHRYSOLOGA**—In our field trials during the past season this variety stood out pre-eminently as the finest yellow in the collection. Large, incurved flowers of elegant form.

**CHARLES RASER**—Elegant, snow-white, incurved blooms of fine size and build. Comes on long, stout stems grandly clothed with luxuriant foliage. One of the finest new sorts.

**CLEMENTINE TOUSET**—Creamy white, delicately laced with lilac and lavender; petals beautifully twisted and arranged. Fine large flower.

**GOLDEN EAGLE**—Rich, golden yellow, immense size, very double; a grand, well-built flower, with splendid stem and foliage. A sure prize-winner.

**GREYSTONE**—Large reflexed broad petaled blooms of reddish bronze; reverse of petals light buff. One of the most distinct and beautiful.

**DR. ENGUGHARD**—Flowers delicate pearl-pink; large, beautifully incurved; very double and of exquisite form.

**MAJOR BONNAFFON**—Soft, clear yellow, full in the center, eight inches in diameter and nearly as deep; perfect form.

**CHIEFTAIN**—Color a beautiful shade of Enchantress, or flesh pink. Perfectly incurved flowers of remarkable waxy appearance. Sturdy grower with handsome, leathery foliage. A fine thing.

**L'AFRICANE**—Very large rich crimson flowers; one of the finest dark colored sorts.



**MRS. H. W. BUCKBEE**—Fine incurved blooms of ivory white color; very double and lasting. Free blooming and very hardy.

**MARIGOLD**—Heavy broad incurved petals forming a very large globe shaped bloom of glistening texture. Color golden yellow tinged with bronze. Rank grower, very large foliage.

**ROMAN GOLD**—In this fine variety we have secured a sort which for richness of color excels all other yellow varieties to date. Comes shaded with bronze in cool weather.

## Rare New Japanese Chrysanthemums

Price 15c each, set of 12 sorts \$1.50

**D. B. CRANE**—Bold incurved flowers of wonderful substance. Color golden yellow distinctly splashed with red. Very distinct and novel coloring.

**EARLY FROST**—Large pure white flowers of perfect incurved form and fullness. Flowers very early and remarkably free.

**GOLDEN QUEEN**—Deep golden yellow blooms of fine size and build. Petals nicely incurving and full to the center.

**HARVARD**—Rich velvety crimson of reflexed form, produced with great freedom. The darkest colored variety to date.

**MANKATO**—Of sturdy, upright growth, producing stout stemmed flowers of fine size. Color amaranth red shaded to purplish rose. Petals reflexing and interlacing in beautiful manner. Very distinct.

**MRS. B. E. HAYWARD**—Rich bright pink shaded to silvery pink. Of improved incurved form and very dwarf habit requiring little staking.

**ODESSA**—The greatest exhibition yellow yet produced. Flowers of immense size, filled with a myriad of incurving petals, requiring a long season to mature.

**OCONTA**—Rank in growth, free in bloom, flowering in early October. This fine white variety is going to become very popular.

**PINK GEM**—Crisp, broad, incurved petals forming a perfectly round bloom of waxy finish. Color delicate silvery pink. Splendid foliage and habit of growth.

**TEKONSHA**—Very large loosely incurving blooms of a rich golden bronze color. A most beautiful shade of color. Fine healthy dwarf habits of growth.

**WHITE CHIEFTAIN**—A sport from the variety Chieftain having all the characteristics of that fine sort except that the flowers are pure white. Dwarf sturdy habit, long fringe-like petals of the most perfect form.

**WILLIAM TURNER**—Immense incurved flowers of snowy whiteness. The largest variety in existence and without a peer for exhibition purposes.



## 6 Beautiful Flowering Begonias

Price 20c each, set of 6 sorts \$1.00 postpaid.

**BERTHA CHATEROCHER** — Glossy green foliage covered nearly the year round with clusters of bright scarlet flowers.

**COMPTA** — Pointed purplish-green leaves with silvery shadings. Pure white flowers.

**ARGENTEA GUTTATA** — Handsome erect growing sort, with pointed wine-colored leaves with silvery white spots; clusters of pure white flowers on the tips of the stems.

**FOLIOSA** — The freest-flowering Begonia we have. Makes a handsome window plant, with its glossy green leaves and bright pink flowers.

**NITIDA ALBA** — Waxy dark green ovate leaves and graceful pure white flowers.

**PRESIDENT CARNOT** — Very large green leaves with purplish cast on reverse sides. Large pendant clusters of light scarlet flowers.

### REX BEGONIA

Grown for the beauty of their foliage. The leaves are large, variegated and margined with a peculiar silver-metallic gloss.

Price choice plants each 25c



*Rex Begonia*

## Free Blooming Fuchsias

Price 15c each, set of 6 sorts 75c

**ELSA** — Sepals rose-pink, corolla rosy purple. A fine large bloom.

**JUPITER** — This is a grand mammoth double flowered Fuchsia; flowers of enormous size, very large, rich purple violet corolla; tube and sepals bright crimson.

**MOLESWORTH** — Fine, large and elegant form, sepals long and reflexed, pure red; corolla large double white.

**SPECIOSA** — A winter blooming variety producing very long, narrow flowers, tube and sepals blush-pink, corolla bright carmine.

**STORM KING** — Superb double white variety well known to all plant lovers.

**TRAILING QUEEN** — Tube and sepals-rosy-scarlet, corolla violet purple. Of trailing habit of growth, fine for baskets and window boxes.

## Bedding Lantanas

A fine class of Summer blooming bedding plants also known as shrubby Verbenas. They vie with the Geraniums and Cannas in their brilliancy of colors during the Summer season.

Price 15c each, set of 6 sorts 75c

**CORBEILLE D'ARGENT** — Lovely pure white variety, dwarf and compact.

**IOLANDE** — Beautiful umbels of showy flowers in shades of crimson, orange and yellow.

**LEO DEX** — Bronzy-red and crimson-violet, very striking.

**LYRE** — White with clear yellow centers, dwarf.

**RED AND GOLD** — Dwarf grower. Yellow and orange in center, deep crimson towards edge of umbels. This fine variety has been featured strongly at our Rose Festivals.

**WEeping LANTANA** — Of trailing habit making it also desirable for baskets and boxes. Lavender colored flowers all Summer long.

## Popular Annual Bedding Plants

Annual bedding plants are so inexpensive and satisfactory that they should be planted extensively for cut flowers in the home as well as for garden effects. They also make splendid displays in tubs and porch boxes.

We have for early delivery fine large plants that can be set as soon as weather permits and with little care will bloom freely throughout the season. Prices are f.o.b. Portland.

Alyssum.....	.50	Clarkia.....	.50	Larkspur.....	.50	Pinks.....	.50
Asters.....	.50	Cosmos.....	.50	Lobelia.....	.50	Salpiglossis.....	.50
Carnations.....	1.00	English Daisies..	.50	Marigold.....	.50	Salvia.....	.70
Calliopsis.....	.50	Forget-Me-Not..	1.00	Mignonette.....	.50	Stocks.....	.50
Candytuft.....	.50	Geraniums, 75c to 2.00		Petunia.....	.75	Verbena.....	.50
Centaurea.....	.50	Heliotrope.....	.75	Phlox.....	.50	Zinnias.....	.60

**Plant Annuals in the bulb beds.** After the bulbs are through blooming they should be allowed to grow until late summer and the beds can be made very attractive with annual flowering plants without disturbing the bulbs. Forget-me-nots, Petunias, Pinks, Poppies, Verbenas and Candytuft are among the best



## Miscellaneous Flowering Plants

*The following includes many useful and beautiful plants for Baskets, Porch Boxes, Bedding and House Plants*

**ABUTILON ECLIPSE**—Handsome variegated foliage; bright pendant flowers of scarlet and gold colors. Fine for vases and baskets. **Ea 20c**

**AGERATUM**—*Blue-Star*—Bedding and border plant growing one foot high. Feathery blue flowers all Summer. **Each 15c; \$1.00 per doz**

**CALCEOLARIA**—*Shower of Gold*—Pretty clusters of golden yellow flowers all through the season. **Each 20c**

**CINNAMON VINE**—A beautiful vine of rapid growth, suitable for porches, trellises, etc.

**Large roots 15c each, 2 for 25c**

**COLEUS**—*Fancy Leaved*—Coleus are the most important of all the fancy leaved bedding plants. They also make very fine pot plants, especially if you have a warm room to Winter them in. **Each 15c, 6 fine sorts 75c**

**PERSIAN CYCLAMEN, Giant Flowered**—Cyclamen have circular fleshy leaves of rich metallic green variously marked with silvery stripes. The flowers appear at the approach of cool weather and continue blooming throughout the Winter. Colors, red, pink, and white. **25c each, larger plants 50c each postpaid**

**COMMON IVY**—Waxy green leaves, strong growing vine for window and porch boxes or for hanging baskets. **Each 15c**

**GENISTA RACEMOSA**—*Shower of Gold*—Its pendent-shaped flowers literally smother the plant during the Spring months, while at other times its graceful dark green foliage makes a very ornamental plant. Easily grown. **Each 25c, add 10c if postpaid**

**GERANIUM ROSE SCENTED**—Cultivated for its sweetly scented leaves. **Each 20c**

**MESEMBRYANTHEMUM SPECTABILIS**—Quilled shaped, succulent leaves with large single thistle-like cerise pink flowers. Fine for baskets, vases or porch boxes. **Each 15c**

*Burbank Thornless Blackberries are of very recent introduction. They are all and more than any one has claimed for them. We candidly believe that in the near future the majority of blackberries grown, both for home use and for shipping and the canneries will be of the Thornless sort. You should try a few of these. See Page 110.*

**PETUNIA, Irvington Beauty**—Single-flowered. A very popular bedding and window-box plant. Covered all season with beautiful light pink flowers veined green and shaded to white in the throat. **Each 20c, 3 for 50c**

**PRIMROSES, New Giant Obconica**—The crisp green leaves spring up luxuriantly amid which appear, all season, stout little stalks, each surmounted by a pretty cluster of lavender-pink flowers several inches across. One of the finest Winter blooming house plants for a cool room. **Price 20c each, larger plants 35c and 50c each, add 10c if postpaid.**

**PRIMROSES, Chinese Fringed**—Are easily grown in a cool room, delighting in a light sandy soil. Flowers are fringed, produced in trusses well above the fresh lively green foliage, which of itself is very handsome. Colors, red, pink, white. **Price 25c each, larger plants 35c and 40c each, add 10c if postpaid.**

**SALVIA**—*New Zurich*—A distinct and attractive variety of compact dwarf growth, of neatly rounded form, closely set with stiffly erect spikes of bright scarlet flowers. **Each 15c, per dozen \$1.25**

**SMILAX**—For using as a green with cut flowers, Fine as a parlor or window plant. **Each 15c**

**VINCA VARIEGATA**—Leaves are a glossy green, broadly margined a creamy white. The best of trailing plants for window boxes. **Each 20c, 2 for 35c**

**VERBENA**—*New Mammoth*—The Verbena is, next to the Geranium, the most popular of all bedding plants. Assorted colors. **Each 15c, doz. \$1.00**

**WANDERING JEW**—*Tradescantia*—White and Red Variegated. **Each 15c**

### Mastodon Pansies in Bloom

From March until June we offer our famous "Mastodon" Pansy plants in full bloom. Put up one dozen in a basket. Mailing weight 4 lbs. **Price, 60c to \$1.00 per basket, not prepaid.**

### Flavoring and Medicinal Herbs—Plants

**CHIVE**—Has mild onion flavor, grows in grass-like clumps; much used for flavoring. **Each 15c, doz \$1.50**

**ROSEMARY**—Infusions of the leaves are used in medicinal beverages. Produces an aromatic oil. **Each 25c, doz \$2.50**

**PEPPERMINT**—Hardy perennial for producing oil. **Each 25c, doz \$2.50**

**THYME**—Broad leaved, used in soup, stuffing and sauce. **Each 25c, doz \$2.50**

**LAVENDER**—By distillation produces the well-known Lavender water, the flowers for perfuming wardrobes, etc. **Each 25c, doz \$2.50**  
**Large clumps, each 50c**

**SWEET MARJORAM**—The sweet, aromatic leaves are used in either the green or dry state. **Each 20c, doz \$2.00**

**SAGE (Giant)**—The leaves and tender tops are used in stuffings and sauce; also in the beverage known as Sage Tea. The Giant Sage is a greatly improved variety. **Each 15c, doz \$1.50**



# Evergreens

## Arborvitae

- \*AMERICAN**—Native, known as white cedar. Foliage bright green, yellow-green underneath; brown and bronze in winter. **2 to 3 feet \$1.50**
- GOLDEN**—Elegant; habit regular; foliage tinged with gold in spring. **2 to 3 feet \$3.00**
- AMERICAN VARIEGATED PYRAMIDAL**—Foliage dark green. **2 to 3 feet \$1.50 to \$2.00**
- ORIENTAL**—Close ascending branches of a fan shaped appearance. **2 to 3 feet \$1.50 to \$2.00**
- RED CEDAR**—Native, with striking form and beautiful color. **2 to 3 feet 75c**

## Cedrus

- DEODORA (Himalayan or Indian Cedar)**—Branches drooping; foliage silvery green. Very popular. Vigorous grower. **\$3.00 and up**
- DEODORA VARIEGATA (Variegated Cedar)**—A fine tree, same as Deodora with silvery white tipped foliage. **\$3.00 and up**
- JAPANESE CEDAR (Cryptomeria Elegans)**—Beautiful delicate green foliage and graceful habit, color changing to reddish brown in winter. **Price, 1 to 2 feet, each \$2.00**
- RED CEDAR (T. Virginiana)**—Handsomerich green; very distinctive in form and foliage. **Price, \$1.50 to \$5.00 and up**

## Cypress

- \*LAWSON'S**—Branches horizontal; foliage dark green. **2 to 3 feet \$2.00**
- LAWSON BLUE**—Of slender habit with silvery foliage. **Each \$3.00**
- ALLUMII**—Bright blue. **Each \$3.00**
- LAWSONIANA DARLYENSSI**—A strong grower; color a fine bright yellow. **Each \$3.00**

## Fir

- AMERICAN BALSAM**—Prized for its delightful aroma. **1½ to 2 feet \$2.00**
- EUROPEAN**—Splendid; branches spreading, foliage broad and silvery. **2 to 3 feet \$3.00**
- NORDMAN'S**—Lustrous, deep green foliage; very symmetrical. **Each \$3.00**
- WHITE**—A fine tree; rapid growth; very hardy. Very attractive. **1½ to 2 feet \$3.00**

## Hemlock

- AMERICAN**—Branches pendant and foliage deep green. **Each \$2.00**

## Holly—(Ilex)

We have a fine lot of Hollies, both seedling and grafted stock. If wanted in quantity, write for special prices.

- ENGLISH (Aquifolia)**—Prickly, dark green foliage; grows moderately fast, covered during the winter months with bright red berries. Prices: Berry-bearing trees, per foot, **\$1.50**; nice trees, **\$2.50 to \$6.00**; ordinary stock, per foot, **\$1.00**; nice trees, **\$1.50 to \$3.00**.

**LARGE SPECIMEN HOLLY TREES** can be furnished with or without berries. Prices and sizes on request.

## Juniper

- IRISH**—Pyramidal in form, foliage silvery gray; very striking. **2 to 3 feet \$2.00**

## Magnolia Grandiflora

- Choice well budded trees. **2 to 4 ft, each \$2.50**

## Pine

- AUSTRIAN**—Splendid for seashore planting; growth rapid; quite hardy. **2 to 3 feet \$1.50**

## Spruce

- \*NORWAY**—A lofty, rapid grower; branches drooping. Fine for hedge or windbreak. **1 to 2 feet \$1.25**
- NORWAY VARIEGATED GOLDEN**—Foliage golden yellow, vigorous. **2 to 3 feet \$2.00**
- COLORADO BLUE**—The most beautiful of spruces; foliage silvery blue. **Each \$2.50**
- DOUGLAS**—Somewhat similar to our hemlock; rapid grower. **1 to 1½ feet \$1.50**

## Yew

- ENGLISH**—Slow growth, densely branched, head spreading, dark green leaves. **1½ to 2 ft. \$2.00**
- IRISH**—Upright, deep, dark green foliage. **2 to 3 feet \$3.50**

Prices F. O. B. Portland.

An extra charge will be made on above, when packed for shipment, at actual cost of material and labor.





## EVERGREEN SHRUBS

### Aucuba

**JAPONICA**—Japan evergreen, with shining foliage and red berries. **Each \$1.00 and up**  
**JAPONICA VARIEGATA**—Green and yellow foliage; very showy. Large plants for immediate effect. **Each \$2.00 to \$3.00**

### Azalea

**CRIMSON (A. Hinodegiri)**—(Asahi)—Evergreen variety from Japan, bright, minute, waxy foliage that turns garnet in winter. Loaded in early Spring with masses of scarlet flowers which almost cover the plant. Low-growing, and one of our best massing shrubs. **Choice plants \$2.00 each**

### Broom

**SCOTCH**—Branches drooping, covered in spring with bright yellow flowers. **3 to 4 feet \$1.25**  
**WHITE FLOWERING**—Same as Scotch; flowers white. **3 to 4 feet \$1.00**  
**SPANISH**—Upright; branches leafless, superior to Scotch. Blooms continuously throughout the summer. **3 to 4 feet 75c**

### Cotoneaster

Splendid for low walls, rock work, terraces, etc. Foliage is small, of a rich green, and in the Fall the plants are covered with bright red berries that remain for a long period. We offer three varieties. **Choice plants, \$1.00 to \$1.50 each**  
**HORIZONTALIS**—Branches nearly horizontal, bearing brilliant red berries during Autumn and Winter. Small pinkish white flowers.  
**MICROPHYLLA**—More slender, with smaller leaves and branches, than Horizontalis.  
**SIMONSI**—Of upright growth with small leaves; pink-white flowers and bright red fruit.

**THORNLESS BLACKBERRIES**—See page 110.

### Hydrangea

**HORTENSIS BLUE**—Very fine Japanese variety for potting and porch decoration; large flowers, rosy blue to light blue, according to the soil.  
**HORTENSIS PINK**—Fine truss, pure pink. **2 to 3 shoots, \$0.75; 4 to 5 shoots, \$1.25; 8 to 10 shoots, \$1.75; Large plants, each \$2.50 to \$3.00.**

### Lauristinus

Luxuriant dark green foliage, with clusters of small white flowers in winter.

**1 to 2 feet, each \$1.00 and up**

### Laurel

**PORTUGAL**—Dwarfish, leaves dark green, flowers very sweet. **2 to 3 feet \$1.25**  
**ENGLISH**—Leaves broad, flowers in clusters, creamy white. Purple berries. **18 in. to 3 ft. 75c to \$3.00**

### Mahonia—Aquifolia

**OREGON GRAPE**—Shining, purple, prickly leaves; bright yellow flowers; berries blue-black. **18 to 24 in. \$1.00 to \$1.50 (Balled)**

### Privet—Evergreen

One of our best hedge plants; has small, pointed, evergreen leaves; grows rapidly and compactly; stands severe pruning.

**1-year old plants, 10 to 18 inches, 10 plants \$1.50; 100, \$10.00.**

**2-year old plants, 1½ to 2 feet, 10 plants \$2.00; 100, \$15.00.**

### "Umbrella Pine"

**SCIADOPITYS VERTICILLATA**—The leaves are narrow, round and arranged in whorls of umbrella-like tufts; is especially adapted for porch or lawn decoration. **2 to 3 ft., ea. \$3.00**

## APPLES

☛ This is a good year to plant Apple trees. The standards of production and markets are well established, making an apple orchard a safe investment. Write for quotations on large orders.

	Each Per 10 Per 100		
First Grade, 2 years	\$1.00	\$9.00	\$75.00
First Grade, 4 to 5 feet	0.75	6.50	50.00
First Grade, 1 year, 3 to 4 feet	0.65	6.00	45.00

### Winter Varieties

☛ **Arkansas Black**—Yellow where not covered with a beautiful dark maroon, approaching black; flesh firm, fine grained and juicy; a long keeper. Dec. to Apr.

☛ **Baldwin**—Deep, bright red; very productive; crisp; one of the best winter apples. Nov. to Feb.

☛ **Ben Davis**—Yellowish, overspread with red; flesh white, tender, juicy; pleasant sub-acid; Oct. to Jan.

☛ **Bismarck**—Fruit large, handsome, yellowish sometimes shaded red cheek; tender, sub-acid seldom fails to bear when two years old. Sept.

☛ **King**—Large, striped red and yellow; tree vigorous; good mountainous apple. Nov. to Dec.

☛ **Lady Apple**—Dainty, small flat apple; red cheek. Good Christmas fruit. Tree upright and vigorous.

☛ **Mammoth Black Twig**—Very large; bright red, sub-acid; fine late keeper; fine, vigorous tree. Nov. to Jan.

☛ **McIntosh Red**—A seedling of the Fameuse; bright red, tender and delicious. Nov.

☛ **Delicious**—A splendid apple. Fine for market and home use and especially adapted to Eastern Oregon and Washington. Keeps till April.

☛ **Gano**—Fruit is a bright red on yellow ground, oblong, smooth. Fine keeper. Nov. to Apr.

☛ **Grimes Golden**—Rich golden yellow; flesh tender and juicy. Tree hardy and vigorous. Nov. to December.

☛ **Jonathan**—Early bearer. Fruit beautiful red and oblong; fine quality. Valuable as a pollinizer with Spitzenberg and Newtown. Oct. to January.

☛ **Stayman Winesap**—A seedling of the Winesap. Yellow striped with red. Flesh firm, crisp, juicy; sub-acid. Jan. to May.

☛ **Talman's Sweet**—Medium size, pale, whitish yellow, tinged with red; flesh firm; rich and very sweet; best to preserve; vigorous; productive. Nov. to April.



## APPLES—Continued

### WINTER VARIETIES

**Multnomah (New)**—A hybrid between the American Pippin and Rome Beauty. Red striped yellow; flesh white and fine; sub-acid extra long keeper and in its prime from February to June.

**Northern Spy**—Large, greenish yellow, stripes of purplish red; flesh white, juicy, sub-acid.

**Ortley, or White Belleflower**—White fleshed, fine grained conical fruit of superior flavor; one of the best. Dec. to Apr.

**Red Cheek Pippin**—Sub-acid; yellowish-green color; red cheek; large size, good bearer. Keeps till March.

**Rhode Island Greening**—Large, greenish yellow; flesh yellow; tender and crisp. October.

**Rome Beauty**—Yellow, shaded with bright red; juicy sub-acid; fine market sort; good bearer. Nov. to Feb.

**Spitzenberg**—Large, oblong; yellowish ground with broken stripes of bright red; flesh yellowish, juicy, delicious rich flavor. Nov. to March.

### SUMMER VARIETIES

**Early Harvest**—Medium size; bright straw color; tender and fine; good for table and cooking. July.

**Gravenstein**—Large, beautifully dashed with deep red and orange; tender and crisp; aromatic flavor. August.

### AUTUMN VARIETIES

**Waxen**—Fruit medium; skin pale yellow; sharp acid; splendid for drying. October.

**Fameuse**—(Snow Apple) Medium size, greenish yellow, with streaks of deep red on sunny side; flesh remarkably white; fine dessert fruit. Oct. to Dec.

**Wagner**—Good size; deep red in the sun; flesh firm and fine grained; good keeper; sub-acid. Oct. to Dec.

**Winesap**—Yellow streaked with red; flesh yellow; rich flavor; excellent for cider. Dec. to Apr.

**Wealthy**—Medium, whitish yellow, shaded with deep red; flesh white, tender and juicy. Oct.

**Winter Banana**—Fancy market fruit; pale yellow with pink blush. Has a delightful aroma and suggestive banana flavor. Not a good shipper. Nov.

**Wolf River**—Greenish yellow shaded with dark and light red; strong grower; good bearer. Sept. to Nov.

**Yellow Belleflower**—Large, oblong, yellow, sometimes a blush in the sun; crisp, juicy, sub-acid; very productive. Oct. to January.

**Yellow Newtown Pippin**—Large; skin smooth, golden yellow; crisp, juicy; standard export variety. Dec. to May.

**Red Astrachan**—Large, deep crimson, moderately juicy, rich acid flavor; very productive. Aug.

**Red June**—Medium, oblong, deep red; excellent for table use; one of the best early apples.

**Yellow Transparent**—Medium size, roundish, slightly conical; skin pale yellow; juicy, sub acid; bears young. July.

**Maiden's Blush**—Medium yellow, with a very distinct red cheek on the sunny side; flesh white; sub-acid. Sept.

**Golden Russet**—Medium, dull russet, with a tinge of red; flesh crisp, juicy and highly flavored. Sept.

## CRAB APPLES

Nice stocky trees, each \$1.25; per 10 \$10.00

**Florence**—Red striped; early good annual bearer, juicy and crisp; fine for home gardens. Sept. 1.

**Transcendent**—Very large, good for cider; yellow striped red. Productive. Adapted to Montana. Sept.

**Hyslop**—Large, deep crimson; hardy. Nov. Jan.

**Red Siberian**—Yellow with scarlet cheek. Bears young and abundantly. September.

**Yellow Siberian**—Fruit small, fine golden yellow. Good. Aug.

## QUINCE

**PRICES:** Each 10  
**First Grade, 2 years** ..... \$1.50 \$10.00  
**ORANGE**—Standard variety; early; large, golden yellow; good for preserving or flavoring. September.

**MEECH**—Large, yellow; cooks tender; delicious flavor; more productive than the Orange. October.

**PINEAPPLE**—The flavor is suggestive of the pineapple; fruit resembles the Orange quince; superior for jelly; can be eaten raw; delicious flavor. Sept.

*GOULD SPRAYERS will give and maintain the necessary pressure to spray right. They are built for lasting service.*

## APRICOTS

Prices, except where noted: Each First Grade, 4 to 5 feet \$1.25; 10, \$10.00; 3 to 4 feet, \$1.00; 10, \$9.00

**THE LEWIS**—The largest, strongest growing, best yielding, best flavored apricot we have ever seen, perfectly hardy. Grown extensively in "Goodnow Hills" district. July, Aug.

**MOORPARK**—Very large, yellowish green, brownish red on the sunny side; flesh bright orange; fine for canning and drying; July, Aug.

## NECTARINES

**BOSTON**—Large, deep yellow, bright blush; flesh yellow; rich and luscious. Best for Oregon. August 1.

Price: 3 to 5 ft., each 75c; 10, \$6.50

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## PEARS

**WE CAN SUPPLY** all standard varieties of Pears, but list only those in greatest demand. If the variety you want is not listed, write us.

	Each	Per 10
First Grade, 2 years . . . . .	\$1.25	10.00
First Grade, 1 year, 4 to 6 ft. 1.00		9.00
First Grade, 1 year, 3 to 4 ft. .90		7.50

- ✓ **BARTLETT**—Large; skin thin; juicy; highly flavored; best Summer pear existing. Aug., Sept.
- ✓ **BEURRE BOSC**—Large, beautiful, russety; highly flavored; fine for shipping. September.
- ✓ **BEURRE CLAIRGEAU**—Large, yellow, shaded orange and crimson with russet dots; flesh yellowish; juicy. September.
- ✓ **BEURRE D'ANJOU**—Large, handsome, fine flavor; tree vigorous; heavy bearer; keeps till Christmas. September.
- ✓ **COMICE**—A splendid commercial variety, being of fine size; good appearance; ships well. Oct.
- ✓ **FALL BUTTER**—A Fall favorite; yellow, sweet and juicy. September.
- ✓ **LOUISE BONNE DE JERSEY**—Large, greenish yellow, brownish red in the sun, marked with gray dots; juicy, melting. October.
- ✓ **SECKEL**—Rich and highly flavored; brownish green, russet brown cheek; buttery and melting. September, October.

## Winter Varieties

- ✓ **P. BARRY**—Very large yellow pear. Juicy and fine grained. Good keeper. Dec. to March.
- ✓ **WINTER BARTLETT**—Fruit large, closely resembling the famous Bartlett in flavor and appearance, but ripens later.
- ✓ **PEARS** are a profitable orchard crop, and our stock this season is of extra fine quality, clean, thrifty, well-grown trees
- ✓ **ROOSEVELT (New)**—Large, roundish. Juicy melting; yellow clouded with salmon rose. Oct.
- ✓ **WINTER NELIS**—Medium; skin yellowish green; flesh yellowish white; fine grained, rich saccharine aromatic flavor. December.

## CHERRIES

**PRICES, except where noted:**

	Each	Per 10	Per 100
First Grade, 1 year, 4 to 5 feet . . . . .	\$1.25	\$10.00	\$85.00
First Grade, 1 year, 3 to 4 feet . . . . .	1.00	9.00	60.00

**New—The "Burbank"**—A rich, fine flavored dark red cherry, sweeter than other early varieties; a good shipper, vigorous grower and never failing producer.

**4 to 6 feet—select trees, each \$2.00; doz. \$18.00.**

- ✓ **Bing**—Fruit, large, dark brown or black; very fine; late; a good shipping variety. July.
- ✓ **Black Republican (Lewelling)**—Large size, black, sweet, with purplish flesh; late and a good shipper. June.
- ✓ **Kentish (Early Richmond)**—Dark red, very juicy; one of the best sour cherries and unsurpassed for cooking. Mid-May.

**New—Abundance (Burbank production)**—A seedling of Royal Ann, larger, handsomer, sweeter and more delicious than this great favorite; ripens a week later.

**Price, each, 1 year, 4 to 6 ft. \$2.00; doz \$18.00**

- ✓ **Lambert**—Color deep, rich red; flesh firm and of fine flavor; a fine market variety. Mid-July.
- ✓ **May Duke**—Large, rich, dark red; flesh tender, juicy and sub-acid; an excellent early variety.
- ✓ **Royal Ann**—(Napoleon Bigarreau)—Largest size; pale yellow, becoming amber in the shade and with a bright red cheek; flesh very firm, juicy and sweet; immense bearer. July 1.
- ✓ **Late Duke**—Large, light red; sub-acid. Late July.

## PEACHES

	Each	Per 10	Per 100
First Grade, 3 to 5 feet . . . . .	\$1.25	\$10.00	\$85.00

**EARLY ALEXANDER**—One of the largest and best of the extra early varieties. Almost freestone. July.

✓ **EARLY CHARLOTTE**—Medium early, excellent flavor; freestone; hardy.

✓ **EARLY CRAWFORD**—Very large, yellow, red, cheek; sweet and excellent; popular for table and canning; freestone. Aug.

✓ **ELBERTA**—Very large, bright yellow, red cheek; juicy, sweet; regular bearer; freestone. Late July.

✓ **MAYFLOWER**—Beautiful red all over; extremely early; tree hardy and healthy. Last of June. Freestone.

**LATE CRAWFORD**—Very large; yellow, dark red cheeks; flesh deep yellow; juicy; rich and excellent; freestone; valuable for canning and drying. Sept.

**PHILLIP'S CLING**—One of the best of the clings. Large; yellow; flesh clear yellow to the pit, which is very small; rich and fine flavored; a good canner.

**SALWAY**—Creamy yellow, red cheek; flesh deep yellow, red at the pit; rich and sweet. Freestone. Late Sept.

**TUSCAN CLING**—Very large; yellow, blushed red. Vigorous; strong grower. July, Aug.

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## PRUNES

**I**F you can—**Grow Prunes**—The demand is always good and will increase every year as they can only be grown in certain sections, but where conditions are right they are easily and profitably produced.

PRICES, except where noted: (Special prices in 1000 lots)	Each	10	100
First Grade, 2 Years .....	\$1.50	\$12.50	.....
First Grade, 1 Year, 6 to 8 feet .....	1.25	10.00	\$75.00
First Grade, 1 Year, 4 to 6 feet .....	1.00	9.00	60.00
First Year, 1 Year, 3 to 4 feet .....	.90	7.50	50.00

**HUNGARIAN**—Very large; dark red, juicy and sweet; good shipper. August.

**ITALIAN—Felleberg**—Dark purple; flesh greenish yellow; separates freely from the stone; best for drying. August.

**PETITE — French**—Medium; violet purple; sweet, rich and sugary; fine for drying. Aug.

**SILVER**—Seedling of the Coe's Golden Drop; excellent for drying or canning. September.

**SUGAR—New**—Fruit ripens 28 days before the French; is four times as large and dries in half the time; flesh tender and rich in sugar; color dark purple. Early. August.

**NEW STANDARD**—(Burbank production)—Trees large; enormous yield; sweet, fine-grained and delicious; perfect free stone; skin purple. Price, each, \$2.00

### New--Prinlew

A cross between the Hungarian Prune and Bradshaw Plum. Produced by Mr. H. A. Lewis, one of Oregon's most successful growers. Prinlew is ten days earlier than Bradshaw, color a little lighter than Hungarian. Fruit medium to large, firm and stands handling and shipping, and the golden flesh has a rich, delicious prune flavor. Prinlew has been favorably reported by the United States Department of Agriculture.

Select trees, each \$2.00

**GIANT**—Largest prune known; fruit averaging 1½ to 2 ounces each; excellent quality.

*OUR PRUNE STOCK is of exceptional quality this season—large, vigorous, well grown trees in all grades.*

## PLUMS

PRICES:	Each	10	100
First Grade, 2 years .....	\$1.50	\$12.50	.....
First Grade, 1 yr., 6 to 8 feet .....	1.50	12.50	\$90.00
First Grade, 1 yr., 4 to 6 feet .....	1.00	\$9.00	\$60.00
First Grade, 1 yr., 3 to 4 feet .....	.90	7.50	50.00

**BURBANK**—Medium; cherry red, with lilac bloom; flesh yellow; bears young. Late June.

**COLUMBIA**—Largest size, nearly globular; brownish purple; rich, sugary, freestone. Aug.

**DAMSON**—Small oval, bluish purple; flesh melting, rather tart. Tree fruitful and hardy. Aug.

**DAMSON—Shropshire**—Medium size, dark purple; flesh greenish, juicy and rich. Late Sept.

**GREEN GAGE**—Small round; flesh pale green, melting and juicy; freestone. Mid-July.

**MAYNARD**—Dull red, large, round, rich, sweet; quick-growing, heavy-yielding. July.

**PEACH**—Very large; skin brownish red, slightly coarse grained, but juicy; freestone. July.

**SATSUMA—Blood Plum**—Large, dark red from skin to pit; firm and juicy. Early July.

**WASHINGTON**—Large, dull yellow, pale crimson blush; firm and sweet; freestone. Early Aug.

**YELLOW EGG**—Very large; skin of a deep golden color, rather acid; fine for cooking. Aug.

## GRAPES

PRICES, except where noted: Write for prices in quantity.	Each	10	100
2-year old Plants, not prepaid .....	\$0.50	\$4.00	\$30.00

**CAMPBELL'S EARLY**—Berries large, black, with light purple bloom; flesh, tender; rich, sweet, slightly vinous. Aug.

**CONCORD**—Large, black grape; bunches compact; berries round, sweet and pleasant. Aug.

**DELAWARE**—Grows freely; is perfectly hardy; ripens early; berries small, light red. August.

**MOORE'S DIAMOND**—Bunches large; berry greenish white, flesh juicy; almost without pulp.

Tokay, Muscat, Malaga and other European Varieties, Choice Plants at above Prices.

**MOORE'S EARLY**—Bunch medium; berry large, resembling Concord, and is earlier.

**NIAGARA**—Berry large, uniform; skin thin but tough; pale yellow; flesh tender and sweet. Sept.

**WORDEN**—Bunch very large and compact; berry large, black; an improved Concord. Late August.

## GOOSEBERRIES

PRICES: Each 40c, per 10 \$3.50; per 100 \$25.00

**Downing**—Large, light green; soft juicy and good. Vigorous and very productive.

**Red Jacket (Josselyn)**—Large, smooth, prolific and hardy; best quality.

**Oregon Champion**—Berries very large, pale green; sweet, fine; bush strong, prolific bearer.

This is the standard commercial sort for our section and is best for home use.



## CURRENTS

Currants are a profitable easily grown crop, and the market is always good.

PRICES, Each 35c; 10 \$3.00; 100 \$20.00

**Perfection**—New; largest and most prolific Currant; bright red, rich flavor, mild sub-acid.

**Black Naples**—Very large, black, rich, tender; fine for jellies and wine. Productive, vigorous.

**Cherry**—Very large; deep red; fine for preserving; valuable market variety.

**Fay's Prolific**—Bright red, very sweet; fruit hangs on better than most varieties.

**Victoria**—Large, bright red bunches; late, productive.

**White Transparent**—The best white currant known. Splendid market variety; rich flavor; mild sub-acid.

## LOGANBERRY

The loganberry is generally larger than the blackberry, often an inch and a quarter long; color dark red and produced in immense clusters. It partakes of the flavor of both the blackberry and raspberry. Fruit ripens early; excellent for jelly or jam. June.

PRICES—Large, well-rooted plants: Two-year-old, each 50c; 10 for \$4.50; 100 for \$25.00. One-year-old, each 30c; 10 for \$2.75; 100 for \$20.00.

## RASPBERRIES

### Raspberries—Red Caps

PRICES—Not prepaid, 1 year, each 15c; per 10, 75c; per 100, \$4.00.

**CUTHBERT**—Deep rich red, large and firm; one of the best market berries. Ripens medium to late.

**MARLBORO**—Standard, light crimson, large, very firm; good commercial variety; ripens early.

**ANTWERP**—Earlier than Cuthbert, equally as large, and of the finest quality.

### Raspberries—Black Caps

PRICES—Not prepaid, 2 years—each 25c, per 10 \$2.25, per 100 \$20.00; 1 year—each 20c, per 10 \$1.50, per 100 \$12.50.

**GREGG**—Of good size, fine quality; very productive and hardy. Takes same position among black caps as Cuthbert among the red sorts.

**PLUM FARMER**—Large, black, hardy and productive. One of the very best.

**CUMBERLAND**—Very large; similar to Gregg.

## BLACKBERRIES

PRICES, Not prepaid, 2 years: Each 25c; 10, \$2.00; 100, \$18.00.

**EVERGREEN**—An Oregon introduction; berries long, black, sweet, rich, delicious; July to Nov.

**HIMALAYA GIANT**—Strong grower of a trailing nature; everbearing; an enormous yielder. The berries are large, juicy, coreless, sweet and firm. Good producer even in a very dry season.

**LAWTON**—Fruit large; very productive; Oregon's most popular kind.

**BURBANK'S THORNLESS**—See Page 110.

**NEW MAMMOTH**—Rampant grower of trailing habit. Enormously productive and exceedingly early. Fruit very large; seeds small, cores small and soft; July 1.

**KITTATINNY**—Large, glossy black, juicy, sweet, excellent when fully ripe. July.

**ELDORADO**—Large, jet black, melting, sweet and rich; hardy and productive.

## RIVERSIDE GIANT RHUBARB

**RIVERSIDE GIANT** is unequalled for yield and quality, being crisp, tender, free from stringiness, with a good color and a delicious, distinctive flavor. The skin is so thin that it disappears in cooking. Riverside Giant has every good quality of a commercial rhubarb and is so vigorous and productive that over thirty-five tons per acre is a conservative estimate for the season. Cuttings begin in March and usually four are made, the last one in July. Full information for preparation of the soil and growing the crop, as practiced by the originator, will be sent on request to all purchasers.

Two cars of Riverside Giant Rhubarb shipped to The Dalles for drying, proved to be the best variety for that purpose, containing more substance and not having a tough skin.

We have the exclusive sale of this wonderful rhubarb and offer root divisions from the original stock. Each root will make a thrifty plant if properly cared for. Root divisions must be made from young healthy stock, cuttings from old roots will give poor returns.

PRICE: Each 15c, doz \$1.75, \$12.00 per 100. Postpaid each 20c, doz \$2.00. Special prices on large lots.

### Victoria Mammoth Rhubarb

Standard Hardy Variety

**TWO-YEAR-OLD ROOTS**—Postpaid 20c each, \$1.75 per dozen. By express or freight, each 15c, \$1.50 doz, \$10.00 per 100. Write for prices on larger lots.

Don't plant rhubarb along a fence, near trees or other crops. Give plenty of room. Write for cultural directions

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# STRAWBERRY PLANTS



**DIAMOND Quality Strawberry Plants** are large, vigorous and healthy. They are heavily rooted and have large, full crowns; have been carefully grown, and are free from disease and pests. We dig as ordered and pack for shipment in ventilated crates of 500 plants each. **They are grown from our select strains and are always true to name; no substitution is ever allowed without instructions from the purchaser.**

Our select strains of **New Oregon, Gold Dollar, Marshall, Magoon, Clark's Seedling** and other Western varieties, many of which were introduced by ourselves, still hold their position as the **leading commercial varieties of the Northwest**, and are being planted more extensively each season, thus demonstrating by actual market and growing tests the great superiority of our Western varieties, against the keenest competition from all sections.

## Care for and Feed Your Plants

Neglect is the prime factor in strawberry failures, and most strawberry beds suffer from lack of attention and starvation. Proper fertilization and intelligent culture insure enormous crops of finest fruit and freedom from diseases and pests. White grubs, cutworms, crown miners, etc., can all be controlled by preventive measures. Never set strawberries in or near clover sod or hay fields. Such ground should have at least two years cultivation before using for strawberries. Remove the mulch directly after fruiting.

## NEW OREGON

### Our Own Introduction

#### Best, Most Uniform and Heaviest Yielding

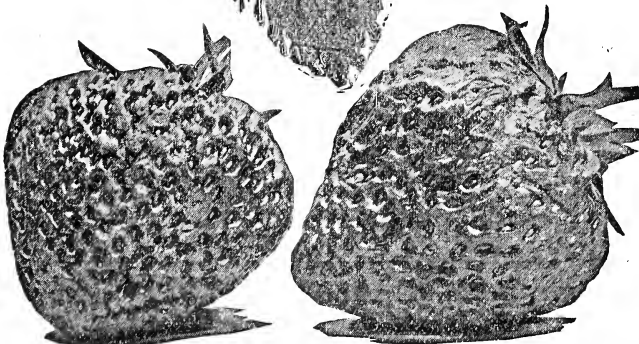
#### Main Crop Strawberry

"**NEW OREGON**" is large, firm and of fine form, averaging 15 to the quart box; color a brilliant, deep, rich red, having a glossy varnished appearance when fully ripe. This dark blood red coloring extends through to the very center, and, no matter how large, "**NEW OREGON**" is never hollow. When fully ripe the distinctive flavor is suggestive of the wild berry, is crisp and delicious, and will remain on the vine for three days without injury, keeping perfectly for many days after picking; stands handling and long shipments and will hold its color, shape and flavor when canned.

"**NEW OREGON**" is an early and continuous bearer, being ready for marketing the first half of May in the Willamette Valley and holds

**Big  
Healthy  
Well  
Grown  
Plants**

*Trim Roots  
here when  
ready to  
set out*



up in size and quality throughout the season, which in some localities extends until frost.

The strawberries here offered have all stood the market test and you will be safe in selecting any one of them that will suit your conditions and requirements. They are the best varieties obtainable.

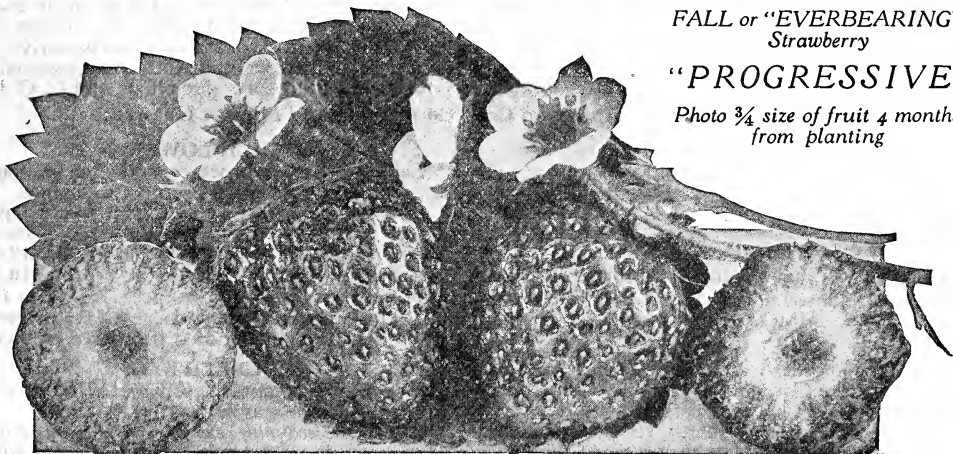
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## FALL OR EVERBEARING STRAWBERRIES

FALL or "EVERBEARING"  
Strawberry

"PROGRESSIVE"

Photo  $\frac{3}{4}$  size of fruit 4 months  
from planting



Fall bearing Strawberries, also known as "Everbearing," are very satisfactory for home gardens and under some conditions will prove profitable commercially, but require special care and attention to secure best results as the late fruit will be small and yield less if the first blossoms are not removed, and the plants are allowed to fruit early and continuously. When properly grown they are of splendid quality and yield heavily until frost.

**PROGRESSIVE**—Rich, red color, firm and of delicious flavor. Good keepers and shippers. Blossoms should be cut back about 4 weeks before the berries are wanted. We consider this the best of its class.

**PRICES:** Postpaid, per doz 75c, 25 plants \$1.25, 100 plants \$3.50  
Not prepaid, per doz 60c, 25 plants \$1.00; 100, \$3.00; 1000, \$20.00

## STANDARD VARIETIES OF STRAWBERRIES

**GOLD DOLLAR**—Extra Early—Gold Dollar berries are large size, dark red all through, and have fine flavor. Foliage heavy, large and spreading, which protects the blooms from early frosts. Gold Dollar Strawberries are the standard early berry in the big markets of the Northwest and are always in demand.

**MARSHALL**—Very large; dark crimson throughout; fine flavor; a fine market and table berry. Our stock is true, vigorous and prolific.


**MAGOON**—Berry large, fine and of excellent sub-acid flavor; bears heavily; especially adapted to Western Oregon and Washington.

**WILSON**—A heavy bearer of fine, moderate-sized berries; sharp acid flavor and the leading sort for canning.

**CLARK'S SEEDLING**—The "Hood River Berry"—Best shipper, berries large, of delicious flavor; vines bear large crops; especially adapted to dry soil.

**PRICES:** All varieties except  
Fall Bearing

Prepaid	1 doz, 40c	Not	25, 50c
	25, 75c		100, \$ 1.50
	100, \$2.00		1000, \$10.00

 Not less than 500 plants of a kind at 1000 rate. Special prices on 3000 or more.

### NOTICE

The State of California has placed a quarantine against all strawberry plants grown North of a line running East and West through McMinnville, Oregon. We ship only plants passed by our State Horticultural Inspector.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## VEGETABLE PLANTS

WE grow large quantities of vegetable plants, and can supply all the kinds listed below, in their proper season, in most any quantity. We have made arrangements this year so that we can supply all vegetable plants in two grades. If you want a quantity of plants write us early.

Transplanted plants are much stronger and better rooted, and are well worth the price especially in the early part of the season. We can supply most any of the leading sorts. No plants sent C. O. D.

**All Prices are Subject to Crop Conditions and Market Changes.**

### CABBAGE

Transplanted and "pulled" plants in all standard varieties. Early and late at seasonable times.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Transplanted.....	\$0.25 \$1.25	\$1.00 \$8.00
Not transplanted.....	.15 1.00	.75 6.00

**F. O. B. Portland**

### KALE

When you order Kale be sure to state whether you want the Garden Kale or the "Cow" Kale.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Thousand Head or "Cow Kale".....	\$0.20 \$1.25	\$1.00 \$6.00
Garden or Curley Kale	.25 1.50	1.25 10.00

Special prices on large lots in season.

### BROCCOLI

Our famous "St. Valentine" Broccoli should be in every garden. Broccoli is a Winter cauliflower very hardy and of the finest quality—"St. Valentine" is the best variety; plants can be set after June and are ready to use in March.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Broccoli.....	\$0.30 \$1.50	\$1.25 \$12.00

Write for prices on large lots. We will grow them to your order.

### SWEET POTATO PLANTS

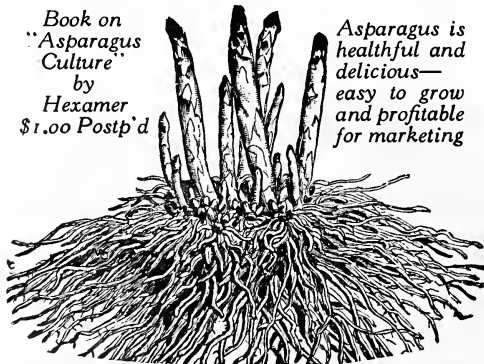
Sweet Potatoes can be successfully grown in most sections. The plants should be set out after the ground is warm. Rich, sandy bottom land is best but any good garden soil will give good returns.

Prices	Postpaid	Not Prepaid
	For seasonable Doz. 100	Doz. 100 1000
delivery.....	\$0.35 \$1.50	\$0.25 \$1.25 \$10.00

**BLACKBERRIES:** Burbank's Thornless, introduced by Luther Burbank. Medium early to late, jet black, hardy, good size, round, bears in large clusters over a long season. A rampant grower, heavy yielder, fine flavor, sweet and delicious. Unsurpassed for table or canning. A good shipper. All a berry grower or lover of the fruit could wish.

**PRICE:** Each 25c; 100 \$2.00; 1000 \$18.00.

Book on  
"Asparagus  
Culture"  
by  
Hexamer  
\$1.00 Postp'd



Asparagus is  
healthful and  
delicious—  
easy to grow  
and profitable  
for marketing

### CAULIFLOWER

Cauliflower seed is scarce and high in some varieties and plant prices subject to change.

	Postpaid	Not Prep'd
	Doz. 100	1000
Early Varieties, transpl'ted.	\$0.30 \$1.75	\$12.00
Not transplanted.....	1.25	10.00
Late kinds, transplanted.....	Write for prices	
Late kinds, not transplanted.....		

Add 15c per hundred if ordered by mail.

### CELERY

Fine, healthy plants in early and Winter varieties furnished in season or grown to order.

To succeed with celery keep the plants growing constantly while young—if they "stand still" they are liable to run up to seed later.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Transplanted.....	\$0.30 \$1.25	\$1.00 \$8.50
Not transplanted.....	Write for prices	

### TOMATOES

Tomato plants should not be set out before the weather is settled and ground warm; unless they are protected from frost.

If you do not know what variety is best, tell us, we will give you the right one.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Transplanted.....	\$0.30 \$1.50	\$1.25 \$10.00

Write for prices on "pulled" plants and large lots, grown to order.

### BROSSELS SPROUTS

These are very hardy and should be grown the same as Kale or Broccoli.

Prices	Postpaid	Not Prep'd
	Doz. 100	100 1000
Brussels Sprouts....	\$0.25 \$1.50	\$1.25 \$10.00

### Asparagus Roots

**ONE-YEAR-OLD PLANTS**—Postpaid 30c doz, 75c per 50, \$1.25 per 100; by express or freight, 25c doz, 60c per 50, \$1.00 per 100, \$9.00 per 1000.

**TWO-YEAR-OLD PLANTS**—Postpaid 40c doz, \$1.00 per 50, \$1.50 per 100; by express or freight 30c doz, \$1.00 per 50, \$1.50 per 100, \$12.00 per 1000.

### Horse Radish

Postpaid 5c each, 35c per doz; by express or freight 25c doz, \$1.50 per 100.

Write for price by the 1000.



# DIAMOND FERTILIZERS

*[The Base is Bone Meal and Tankage—No Cheap Filler. Every Pound Is Good Fertilizer]*



**DIAMOND QUALITY Fertilizers** are complete fertilizers of the highest grade and concentration, no inferior ingredients or cheap fillers are used in their preparation, Bone Meal and Tankage forming the base to which is added the necessary Potash, Nitrogen and Phosphoric Acid. Each package is marked plainly, showing the percentage of available plant food.

**SPECIAL FERTILIZER BOOKLET** giving complete details and prices of the different fertilizers which we can supply, together with full information for their application, will be sent on request. This booklet is instructive, reliable and of great value to all interested in fertilizers.

## FERTILIZERS IN SMALL GARDENS

Amateur garden makers are often puzzled as to the amount of fertilizer needed for their small plots, because the usual directions give only the amount per acre. The following table shows (approximately) the proper proportions:

100 lbs. per acre equals 1 lb. for a plot 10 x 43 ft.
200 lbs. per acre equals 1 lb. for a plot 10 x 21 ft.
300 lbs. per acre equals 1 lb. for a plot 10 x 14 ft.
400 lbs. per acre equals 1 lb. for a plot 10 x 11 ft.
500 lbs. per acre equals 1 lb. for a plot 10 x 9 ft.

**Applied in quantities of 1,000 lbs. to a ton per acre**, our fertilizers, with intelligent culture will sustain and gradually improve the soil and increase the yield and quality of the product, even though the crop be entirely removed and no other manuring done. The roots, vines, stubble and whatever of weeds or waste there is, all assist in providing the necessary humus. A greater amount is often used to advantage by market gardeners. Complete instructions will be found in our Fertilizer Booklet, sent free. If there is any special information you require, write us; your inquiries will have our prompt and careful attention and our experience may help you.

**A 100-Pound Bag of High Grade Commercial Fertilizer** will contain more soluble and available plant food than 4,000 pounds (two tons) of stable manure of average quality. How much easier and cleaner to handle one 100-pound bag than 2 tons of manure, and there are no weed seeds to worry over. Always remember that the commercial value depends upon the available or soluble contents of a mixed fertilizer, and the price is governed thereby. The figures giving the soluble, insoluble, totals, etc., unless understood, are often misleading, apparently giving a greater percentage of the various elements than are actually available.

The amount of commercial fertilizer used in the West is exceedingly small as compared with the amounts used in the East and Middle West. This is probably due to the prevailing belief that commercial fertilizers are not necessary in this section and also due to the fact that their importance and benefit are not understood or appreciated. Each year the growing crops take from the soil hundreds of pounds of Nitrogen, Phosphoric Acid and Potash, and it should be obvious to all that ultimately the quantity remaining will be so small as to make profitable cropping impossible. The importance of maintaining soil fertility by replacing annually the chemicals removed by the growing crops should not be overlooked, and as the amount of stable manure available is entirely inadequate, the sooner the grower decides to make up the deficiency by the application of high grade commercial fertilizers the sooner will he check the annual loss of fertility and bring his land back to its original fertility.

## VALUE OF "CORONA SULPHUR"

**T**HE most common fungous diseases that annoy the gardener and orchardist are Mildew on climbers and roses or flowers, Early Blight on potatoes, Seab on apples and pears, and Brown Rot on peaches. CORONA DUSTING SULPHUR is good for all these and can be used by itself or in combination with "CORONA DRY."

This superfine sulphur, which will readily pass a sieve equal to more than 40,000 holes to the square inch, is the only sulphur sufficiently fine for use in Dust Mixtures. This excessive fineness means greater covering power, more complete and uniform distribution, and consequently better disease control. See page 113.

**Note** AS FERTILIZERS ARE SOLD ON A SMALL MARGIN, PRICES ARE SUBJECT TO MARKET CHANGES, but you will always get FULL VALUE for your money

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## DIAMOND PLANT FOOD

For Ferns, Palms and House Plants. Clean, Odorless,  
Highly Concentrated

A complete, highly concentrated, powerful fertilizer, clean and odorless, wonderfully invigorating to all plants; producing luxuriant foliage and larger and more brilliant flowers.

A 40c package will feed a dozen large plants a whole year. Special instructions on each package.

Price: ½ lb pkg 25c, by mail 35c; 1 lb pkg 40c, by mail 50c

PRICES, FERTILIZER, F. O. B. PORTLAND, OREGON

### GENERAL AND VEGETABLE

An all-round fertilizer, which can be used on any crop, but is especially adapted for grain and general farm crops. Analysis: Nitrogen, 2 per cent; phosphoric acid, 8.25 per cent; potash, .60 per cent.

10 lbs 50c, 100 lbs \$3.10, per ton \$60.00

### FRUIT AND ONION FERTILIZER

This fertilizer is also used for blackberries, raspberries, etc. We sell large quantities for growing the famous Hood River strawberries. Analysis: Nitrogen, 2½ per cent; phosphoric acid, 8.25 per cent; potash, 1.30 per cent.

10 lbs 50c, 100 lbs \$3.15, ton \$62.00

### ODORLESS LAWN AND ROSE

Our Diamond Lawn Fertilizer promotes a vigorous, healthy growth, giving the desired dark rich green appearance; can be used at the time the seed is planted and later as a top dressing. One hundred pounds is sufficient for an ordinary city lot, and is far more effective and less objectionable than stable manure. Remember, it contains no weed seeds. When used as a top dressing it is best to make several light applications about two weeks apart.

10 lbs 50c, 25 lbs \$1.00, 50-lb sack \$1.80, 100 lbs \$3.25, ton \$64.00.

### BONE MEAL

Fine ground, is one of the best fertilizers. This is the only grade of Bone Meal, and is reduced by improved machinery to an even fineness—nothing is added. This is a very valuable enricher of the soil, and one of the most economical at present prices. 5 lbs 30c, 10 lbs 50c, 100 lbs \$3.25, ton \$63.00.

### SHEEP GUANO

The best natural manure, dried and ground. Concentrated, soluble; quick in action, and free from weed seed. Splendid for vegetables; fine for roses and flowers. Excellent for lawns.

10 lbs 40c, 25 lbs 75c, 50 lbs \$1.25, 100 lbs \$2.25, ton \$40.00.

### LAND PLASTER, OR GYPSUM

Made from pure gypsum, free from clay or other foreign matter. This is especially valuable for clover crops.

10 lbs 25c, 100-lb sack \$1.25, ton \$15.00

### LIME

**Lime Rock—Fine Ground.** This is the form of lime recommended by the Agricultural Department. Use ½ to 1 ton per acre.

100 lbs \$1.25, ton \$15.00

### SUPERPHOSPHATE

This is a concentrated form of phosphoric acid, and it is actually the cheapest form in which to buy phosphoric acid. Our present stock contains 18 to 20 per cent available phosphoric acid.

Per lb 5c, 100 lbs \$2.15, ton \$40.00

### TANKAGE

Ground meat scraps and bone, dessicated in a vacuum, is very rich in phosphoric acid and nitrogen.

Per 100-lb sack \$4.25, ton \$82.00

### NITRATE OF SODA

For immediate results Nitrate of Soda is the very best for stimulating and forcing the growth of plants or any other crop.

1 lb 10c, 100 lbs \$4.25, ton \$80.00

### FISH GUANO

Fish cooked, dried and ground is a strong fertilizer, rich in nitrogen, carrying considerable phosphorus and used largely by vegetable growers. We do not recommend this for lawns or city use, as odor is objectionable.

100 lbs \$5.85, ton \$115.00

### POTASH

**KAINIT** is an imported potash salt containing 12 to 14 per cent of potash. A good fertilizer for all crops except tobacco.

100 lbs \$2.25, ton \$42.00

### SULPHUR, The New Fertilizer

Recent field experiments in the Northwest have demonstrated the fact that Sulphur is one of the most valuable fertilizing materials that can be applied to the soil, not only being readily taken up as a powerful stimulant by practically all classes of vegetation, but having the further and more valuable property of making available the insoluble potash and phosphoric acid contained in all soils as well as being an effective fungicide and insecticide. We offer agricultural Sulphur in two forms:

**Diamond S Sulphur**, finely ground and 100 per cent pure. Price, 100 lbs \$3.00. Write for prices in quantities.

**Toro Brand Sulphur**, reduced to the finest possible powder and combined with other chemicals making its action on the soil much more rapid. Price, 110 lbs \$6.00. Write for prices in quantities.

**ASK FOR FERTILIZER BOOKLET AND SPECIAL INFORMATION REGARDING SULPHUR.**



# SPRAYS, INSECTICIDES

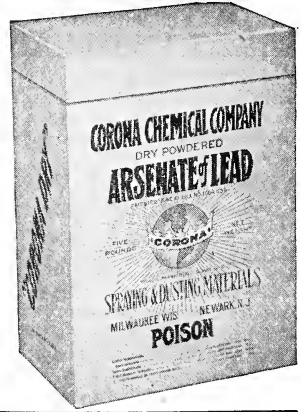
NOTE—Poisonous Sprays marked \* cannot be mailed.

## \*“CORONA” Arsenate of Lead—DRY POWDERED

Contains only Arsenic and Lead Oxides. No Fillers  
MIXES QUICKLY AND EASILY. STAYS MIXED LONGER  
AND STICKS better to leaves, branches and fruit  
than ANY OTHER Arsenate.

“CORONA” Dry Powdered Arsenate is a light, fluffy powder that cannot freeze, dry out, cake or lose its strength—carries the highest possible percentage of arsenic oxide, 33%—is always uniform and requires only one pound to 50 gallons of water. Efficient, economical and convenient. Highest percentage of killing power.

Prices, ½ lb 40c, 1 lb 60c, 5 lbs \$2.50, 10 lbs \$4.50, 25 lbs \$9.50, 50 lbs \$18.00, 100 lbs \$34.00, 200 lbs \$64.00.



Caution Against Spraying When Trees are in Full Bloom—Spraying when trees are in bloom may destroy bees and other insects necessary to pollinate and these natural agents should not be interfered with as their work of transferring the pollen insures bountiful crops and shapely fruit.

FOR DUSTING—“CORONA” DRY used as a dust spray is a safe, inexpensive, easily applied and efficient remedy for all chewing garden pests—and for use on fruit trees, berry bushes and plants—that will insure perfect fruit and clean vegetables.

“Garden Pests and their Control” and full information about “CORONA” mailed on request

## CORONA SULPHUR—For use with Corona Arsenate

CORONA DUSTING SULPHUR is a highly refined pure sulphur reduced to an impalpable powder specially for dusting purposes. The use of this finely powdered sulphur in the Summer season for fungus diseases of fruit and vegetables is equally as effective as Lime-Sulphur; is more easily applied and there are no harmful results as it is a pure, non-poisonous sulphur.

Price, ½ lb 15c, 1 lb 20c, 5 lbs 75c, 10 lbs \$1.20, 100 lbs \$10.00

CORONA DRY AND CORONA DUSTING SULPHUR—Mixed in equal parts by measure, is a complete and satisfactory Summer dust spray for insect pests and fungus diseases; more easily, quickly and effectively applied than other sprays, and is much more economical.

Use “CORONA DRY” and CORONA SULPHUR in your vegetable garden for preventing and exterminating leaf eating insects.

**TOMATOES**—For tomato worms, flea beetles, etc., make first application two weeks after setting out the plants.

**CUCUMBERS**—All chewing insects that injure cucumbers are quickly destroyed by dusting leaves and stems above and below. Corona Dry will not burn the foliage as Hellebore does.

**POTATOES**—Corona Dry is fatal to flea beetles and all chewing insects that damage the foliage. Mixed half and half with Corona Dusting Sulphur will control and prevent early blight.

**SWEET CORN**—The corn ear worm develops from an egg on the new silk or husk and feeds on the silk, following it into the ear. “Corona Dry” gives absolute control of this pest. Thoroughly dust the new silk as soon as it appears.

Choose a bright day with a light wind and apply the powder from the windward side. It is not necessary to have the foliage appear white but care should be taken to cover all parts. Begin Early. Don't wait until the damage is done.

**CARBOLINEUM**—C. A. Wood Preserver—For preserving any kind of timber above or below ground.

Ot can 65c, wt 4 lbs; gal \$2.00; 5 gals \$7.50

**CABBAGE, CAULIFLOWER AND KALE**—To control cabbage worms, dust about ten days after plants are set and as often as necessary until they begin to head. Do not use any poisons on plants after they start to head.

**CUT WORMS**—The best remedy is to scatter poison about where the worms are working. Corona Dry 10%, Molasses 10% by weight, mixed with bran made into small balls and scattered over the ground will attract and kill them.

**ARMY WORMS**—Corona Dry will kill them by dusting or by mixing 25 lbs. of bran and 2 lbs. of Corona with molasses and scattered in a line to meet their approach or all around the plants. Be careful to keep chickens away

SULPHUR, Powder. Lb 5c, 100 lbs \$2.90

TOBACCO DUST.

Lb 20c, 10 lbs \$1.50, 100 lbs. \$12.00



## Sprays, Spray Material, Washes—Continued



A SUCCESSFUL  
REMEDY  
FOR  
CABBAGE  
MAGGOT

For destroying and preventing maggots, grubs and worms that infest turnips, radishes, beets, rutabagas, cabbage and cauliflower, etc., also recommended for combating crown borers in strawberries.

½ pt 35c, pt 65c, qt \$1, ½ gal \$1.50, gal \$2.50

Portland Seed Company's

### APHISCIDE

Our Best Summer Spray for Roses

A clean, efficient spray for aphid, thrip, and kindred insects on plants of any kind. Specially fine for house plants, as it has no offensive odor and will not injure or stain the plants.

Price qt 35c, gal 65c



REG. U. S. PAT. OFF.

**BUG DEATH**—A non-poisonous insect-killing powder that is in high favor among gardeners for cabbage, tomato and cucumber bugs, etc. Use 12 lbs. per acre. Per lb 35c, 5 lbs \$1.00.

**BUHACH**—Oz 30c, ¼ lb \$1.00, 1 lb \$1.75.

**TREE TANGLEFOOT**—For caterpillars, moths and worms. Protects against all climbing insects. One pound makes a band 9 feet long. Price 1 lb 50c, 3 lbs \$1.45, 10 lbs \$4.50, 20 lbs \$8.75.

**HAMMOND'S SLUG SHOT**—For destroying slugs, cabbage and turnip flea, currant worms, etc. Per lb 20c, 5-lb pkg 75c

**HAMMOND'S GRAPE DUST**—To prevent mildew on roses, grapes, and gooseberries.

Per lb 15c, 5-lb pkg 65c

### \*FORMALDEHYDE

A preventive for smut in grain, scab and fungus diseases of potatoes. Prices: Pint \$1.30, qt \$2.35, gal \$8.00. Cannot be mailed.

### PURITAN LIME

A specially manufactured and highly refined lime product for household and other uses. Can be used as a whitewash or for any purpose where a slack lime is desired.

Price per pkg. 35c

### CREOLA

A white disinfectant paint in dry powdered form.

Ready to use when mixed with cold water. Excellent for use in chicken house, stable, dog house, hog house, dairy, etc. Keep the interior of your buildings clean.

Price per pkg 75c



### ★"BLACK LEAF 40" 40% Nicotine

Destroys Aphis, Thrips, Leaf Hoppers on all tree, bush and vine fruits, vegetables, field crops, flowers and shrubs; also Apple Red Bug, Pear Psylla and similar soft-bodied sucking insects—all without injury to foliage. Combines readily with other sprays.

1 oz. 6 gals. spray... \$0.25

½ lb. 40 to 120 gals.

spray..... 1.00

2 lb. 160 to 500 gals.

spray..... 3.25

10 lb. 800 to 2500 gals spray..... \$13.75

### CORONA DRY BORDEAUX MIXTURE

Dry Powdered Bordeaux when mixed with cold water in the proportion of nine pounds to 50 gallons, gives a standard Bordeaux Mixture. Keep in a tightly closed package.

Price, 1 lb 50c, 5 lbs \$2.00

**NICO-FUME**—The best fumigant and spray for greenhouse work. Kills aphid, red spider, mealy bug, thrip, etc.

¼ lb 75c, 1 lb \$2.00, 4 lb \$7.50, 8 lb \$14.50

### CUT WORM FOOD

Use a Teaspoonful to a Plant or Hill

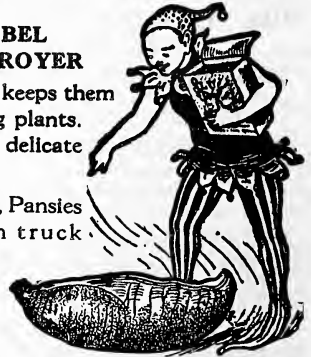
Cut worms are very fond of this special preparation which is eagerly eaten by them in preference to the plants. A careful test proved 95 per cent of the applications effective on Melons, Cucumbers, Cabbage, Cauliflower, Squash, Tomato and Flowering Plants. Easily applied by sprinkling around the plants and will not injure them in any way. Price, 1-lb pkg 35c, 5 lbs \$1.40

### BLUE LABEL SLUG DESTROYER

Kills slugs and keeps them away from young plants. Not harmful to delicate foliage.

For Sweet Peas, Pansies and all garden truck, sprinkle lightly on and around the plant.

Price 25c



### BLUESTONE—(Vitriol)

Lb 20c, per 100 lbs market price

★**PARIS GREEN (Lion Brand)**—The standard of purity. Guaranteed superior to other makes.

Price, ¼ lb 25c, ½ lb 40c, 1 lb 75c

**FISH OIL SOAP**—For aphid, plant lice, etc.

Per bar 25c, 100 lbs bulk \$14.50

**KEROSENE EMULSION**—An excellent spray for woolly aphid and clover mite.

Qt 75c, wt 3 lbs



## DRY LIME SULFUR

Controls all scale and fungus diseases for which Lime-Sulphur Solution is recommended. More convenient to handle and saves freight on water. Put up in air-tight packages which should be used when opened. For Winter spray use ten to fourteen pounds to 50 gallons of water. For Summer in combination with Arsenate of Lead use 2 to 3 pounds to 50 gallons of water.

Price 1 lb 30c, 5 lbs \$1.25, 10 lbs \$1.80, 25 lbs \$3.75, 50 lbs \$7.00, 100 lbs \$13.00, 200 lbs \$22.00

## DIAMOND LIME AND SULPHUR SOLUTION

For San Jose Scale

*You cannot afford to risk a cheap, open kettle product. Be safe. Use the best.*

**Diamond Lime and Sulphur Solution** is prepared in pressure tanks by steam, and is always uniform and of the highest efficiency tests 30 Baume Scale, is made of the purest and best quality of Sublimed Sulphur and of Lime, is a clear, deep cherry colored liquid, free from sediment, and is all ready to mix just as you get it. Merely add 11 gallons of water with each gallon of the Lime and Sulphur Solution. There is no sediment to clog the sprayers. No boiling to be done, which saves fuel, time, labor and annoyance. It is always alike and uniform in strength and results.

Price: 1 qt 30c, 1 gal 75c, 5 gals \$2.40, 50-gal bbl \$12.00 f.o.b. Portland

## DIAMOND SPRA-OIL

**SPRA-OIL** is a miscible oil spray manufactured at Hood River, Ore., and has been used by the big commercial orchards in that section with the greatest success, especially in spraying for leaf roller.

As a **SUMMER SPRAY**—Very efficient for young San Jose Scale and certain Aphids, when diluted with 50 to 100 gallons of water to one gallon of Spraoil—depending on the foliage, which, if very tender, should be sprayed with a weaker solution than 1 to 50.

As a **WINTER SPRAY**—For San Jose Scale, Pear Scylla, Leaf Roller, Woolly Aphid, use one gallon of Spraoil to 15 or 16 gallons of water.

**Directions for Diluting**—Shake and stir well while in the original package; after this, mix with one part of water to one part of Spraoil, which will readily emulsify to a creamy consistency. When this is thoroughly mixed, put it in the spray tank and it will stay in suspension.

Price, qt 40c, gal 95c. 5 gals \$3.50, 10 gals \$6.50. bbl \$21.00 f.o.b. Portland.

You can control

**ROOT  
MAGGOT**

with



A Positive Remedy for Root Maggot

PRICES, 2 lbs 35c, 4 lbs 60c; 8 lbs \$1.00, 25 lbs \$2.50, 100 lbs \$8.50  
f.o.b. Portland

Easily applied, inexpensive, not harmful to plant life; but a valuable fertilizer and stimulant in powder form.

**Absolutely Protects  
CABBAGE, RADISHES,  
TURNIPS, ONIONS, ETC.**



## Treat Your Seed with Formaldehyde

**A Preventive for Smut in Grain—Scab and Fungus Diseases of Potatoes**

Formaldehyde is a clear chemical, resembling water, but has a peculiar odor. It is sold by the pound (pint). One pound is sufficient to treat 40 to 50 bushels of oats.

The following method is in general use: To treat 20 bushels of oats requires  $\frac{1}{4}$  pint of Formaldehyde diluted with 5 gallons of water. Spread the oats on a floor and sprinkle with the diluted solution. Then turn them twice with a scoop shovel. Allow to stand for 12 hours. Then spread to dry. Any quantity can be treated by using the same proportions. Oats thus treated will be entirely free from smut.

Prices, pint \$1.30; quart \$2.35; gallon jug \$8.00; express or freight at purchaser's expense, cannot be mailed.

## SPRAYOMETER—For Testing Lime-Sulphur

For testing lime and sulphur and other solutions. Registers from 0 to 35 Baume scale, and 1000 to 1300 specific gravity. A well made, reliable instrument that protects you against low grade sprays. Weight  $\frac{1}{2}$  lb.

**Sprayometer Set** consisting of one LI-SUL Sprayometer, one 12-inch plain Glass Cylinder in wooden container, with full instructions. Per Set, weight 2 lbs. **Price \$2.50**

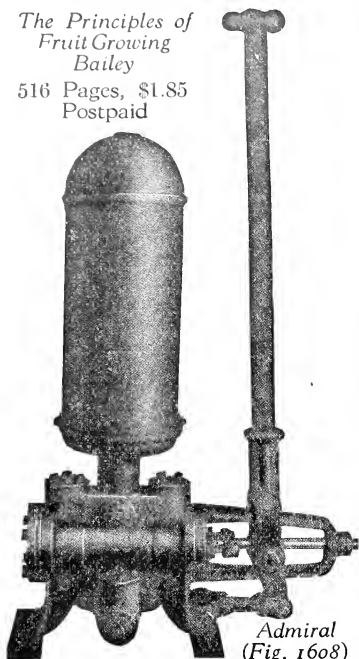
## FRUIT TREES DEMAND BEES FOR PROPER POLLINATION

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



*The Principles of  
Fruit Growing  
Bailey*

516 Pages, \$1.85  
Postpaid



*Admiral  
(Fig. 1608)*

## Gould's Spray Pumps

We are General Agents for the Gould Sprayers, guaranteed to be the best built, most lasting and of the highest efficiency. They are the recognized standard.

### GOULD'S "ADMIRAL" DOUBLE ACTING SPRAYER

*For Large Orchards, Parks, Groves, Etc.—Very Powerful*

The "Admiral" is double acting and produces a steady stream at the nozzle, is built for continuous hard work and high pressure. Especially designed for large orchards, and will meet every requirement. The brass cylinder lining is of heavy seamless tubing, with a cast bronze cylinder head, and can be easily removed. The valves are all brass, and each one in a separate valve box. They are easily reached by removing the bronze valve box covers. The brass piston rod is outside guided, making a perfectly straight thrust through the stuffing box, which is outside packed. Capacity four leads of hose, and will be found fully as serviceable as a power sprayer and one of the best spray pumps for power outfit.

**Outfit A**—Pump only, strainer and suction hose couplings. **\$42.50**

**Outfit B**—Pump with 8-feet suction hose and strainer. . . **46.50**

**Outfit C**—Pump with 8-foot suction hose, two 25-foot leads, best spray hose, two 8-foot bamboo extensions, with Globe valves and nozzles. . **64.00**

**Admiral Pump with 3-inch cylinder** furnished on any of above outfits for **\$4.00** extra.

**Pitman** to connect Admiral for power.

**Extra, \$1.25**

### MONARCH TWO-CYLINDER SPRAY PUMP

**Fig. 1640—Monarch**—This pump has many advantages and we believe it is the best of the large pumps. The main advantages are: First, the long lever, which can be shifted to pull or push, or to lift or drop, and can be changed by the operator any time he desires a relief; second, pump stands outside of the barrel, and all parts can be easily looked after; third, cylinders are perpendicular, and any grit will not lie against the plunger, to wear it or the packing out, as in the case with the horizontal cylinders; fourth, there are no valves in the plungers; the packing is on the outside, and can be tightened any time, without taking anything to pieces; fifth, the four brass valves (each one by itself and under a separate cap), can be reached by merely unscrewing the cap, and without disturbing the rest of the pump.

**Outfit A**—Pump only, 2-inch cylinder, including strainer and hose connection. . . . . **\$40.00**

**Outfit B**—Coupled with 6 feet  $\frac{3}{4}$ -inch suction hose. . . . . **42.50**

**Outfit C**—Pump, suction hose, 25 feet best spray hose, 8-foot bamboo extension, Globe valve and nozzle. . . . . **52.50**

If  $2\frac{1}{2}$ -inch cylinder is wanted add **\$5.00** to price of pump.

### FIELD CROP OR POTATO SPRAYER

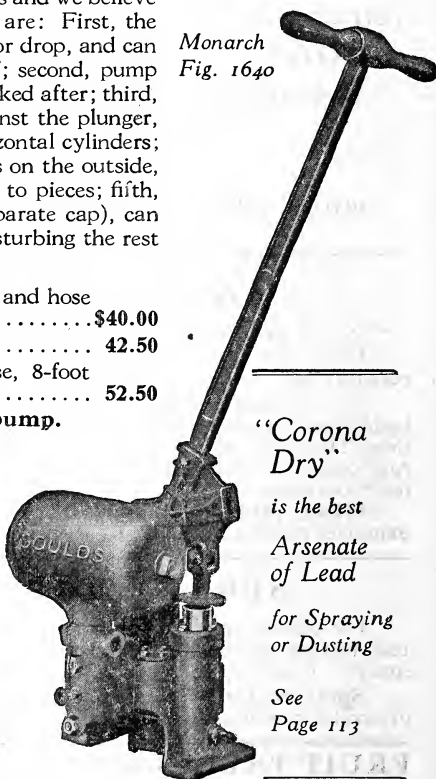
A practical 4-row adjustable attachment including nozzles, for use with any barrel or power pump. A first-class outfit built for service. **Price Complete \$15.00**

### TAKE CARE OF YOUR SPRAYER

*Always empty remaining solution, and pump through clean water after using. Clean thoroughly before putting away at end of season.*

*Never leave sprayers containing liquid where they will freeze; if cylinders are iron they are apt to crack and if brass they will expand.*

*Monarch  
Fig. 1640*



**"Corona Dry"**

*is the best*

*Arsenate  
of Lead*

*for Spraying  
or Dusting*

*See  
Page 113*

## Spray Pumps and Sprayers—Continued GOULD'S STANDARD SPRAYER

Powerful, Large Capacity, Durable

The "Standard" Sprayer is made with a 2 1/2-inch cylinder. The cylinder is brass-lined, the plunger brass-encased and the valves are brass, making all working parts proof against the spraying mixtures. The plunger is easily repacked without taking the sprayer to pieces, and is unusually large, known as a "differential" plunger, which produces a continuous stream of liquid from the nozzle, similar to a double-action pump. The large standard provides an ample air chamber. The base is made so as to fit either the end or side of a barrel.

- Outfit A**—Pump and strainer only..... **\$13.50**  
**Outfit B**—Pump with agitator and suction pipe..... **15.00**  
**Outfit C**—Same as B, with 1 15-foot lead of hose and nozzle... **19.50**  
**Outfit D**—Same as C, with 2 15-foot leads of hose and nozzles. **24.00**  
**Outfit E**—Same as D, with 2 bamboo extensions and globe valves **27.50**  
 We supply a barrel and mount sprayer for **\$2.50 extra.**

### GOULD'S POMONA—Our Leading Barrel Pump

**Fig. 1100**—"Pomona" Spray Pump has won for itself an enviable reputation. We unhesitatingly offer it as the best orchard spray pump for mounting in a barrel. It has great power and capacity. Briefly stated, other points of superiority are: No leather packings, consequently no hardened and useless valves. All working parts bronze, including plunger, gland, valves, valve seats, etc. Plunger is outside packed. Valves are easily accessible. Air chamber is very large and of steel, free from imperfections of cast iron. Lever long and powerful, with adjustable stroke, three, four or five inches. The agitator, as shown in the cut, is operated by the stroke of the handle, so whenever any liquid is pumped it is thoroughly agitated. Pump is held securely by small anchor located at bottom of barrel, and by adjustable clamp plate at the top. New plate admits insertion or withdrawal from barrel without removing the agitator.

- Outfit A**—Pump only..... **\$25.00**  
**Outfit B**—Pump with 12 1/2 feet best spray hose, one Vermorel nozzle, one 8-foot bamboo extension, with cut-off, complete..... **31.00**  
**Outfit C**—Same as Outfit B, except we furnish a good hardwood barrel and mount the outfit..... **33.50**  
**Outfit D**—This is our regular Pomona outfit, the best barrel pump outfit that can be bought. It consists of one No. 1100 pump with two 12 1/2-foot leads of best spray hose, two Vermorel or Seneca nozzles, two 8-foot bamboo extensions, with cut-off; all in working order and mounted in barrel..... **39.00**

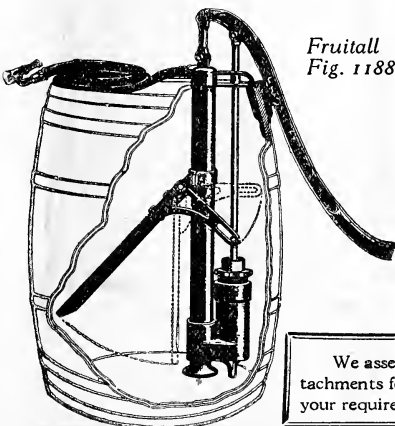
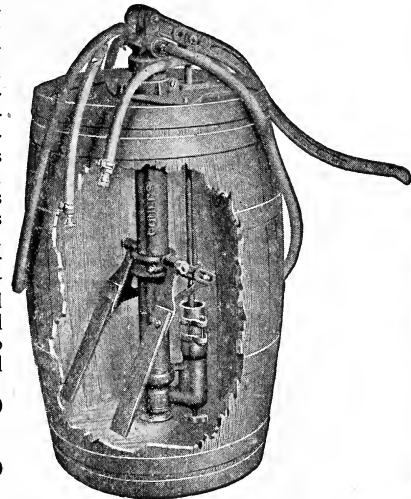
### FRUITALL

**Fig. 1188**—"Fruitall" Spray Pump is made on the same general lines as our famous "Pomona." It is, however, made lighter and of smaller capacity. All working parts, including plunger, gland, valves, valve seats and strainer are made of brass. Pump is held in barrel by anchor at bottom and adjustable clamp at top, fitting over end of stave. Not made for side of barrel.

- Outfit A**—Pump only..... **\$18.00**  
**Outfit B**—Pump with 15 feet of spray hose and one Vermorel nozzle, all complete..... **22.50**  
**Outfit C**—Pump mounted in barrel, 15 feet hose, 8-ft. bamboo nozzle and cut-off, all complete. **27.50**  
**NOTE**—Extra spray hose at 17 1/2 cents per foot.

### POWER OUTFITS

We assemble outfits in any manner desired by customer, and suggest the right attachments for special purposes. Attaching any standard engine specified. Write us your requirements. We can save you money and guarantee a satisfactory equipment.



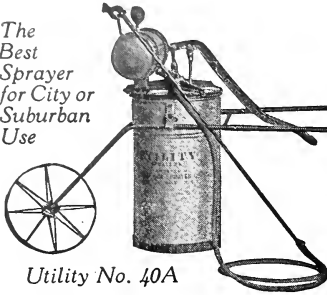




## Spray Pumps and Sprayers—Continued

### UTILITY No. 40-A

The Best Sprayer for City or Suburban Use



Utility No. 40A

**The One-Man Outfit—See Illustration. For all Spraying Operations, Whitewashing, etc.** Pump has heavy brass plunger, specially packed to resist chemicals. All valves and working parts brass. 18 gallons heavy galvanized tank, mechanical agitator, special angle nozzle with spray control; 10-foot 5-ply Spray Hose, 4-foot extension. A special feature is the pressure tank that can be pumped up to 250 lbs. Much spraying can then be done without pumping, enabling one man to do the work. Weight complete 100 lbs. **Price \$52.00**

### You can control Root Maggot with MAG-O-TITE

#### "IDEAL" SPRAYING OUTFIT

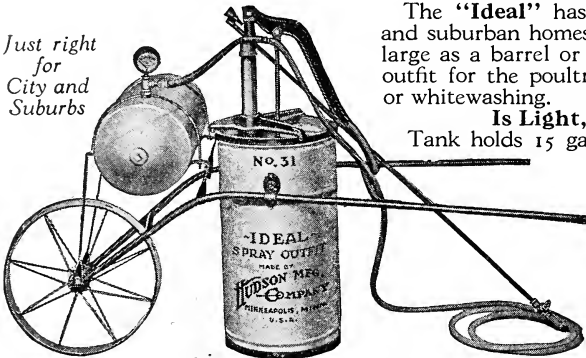
The "Ideal" has been designed for small growers, city and suburban homes, and for all purposes where nothing as large as a barrel or power outfit is needed, and is the right outfit for the poultrymen who does much regular spraying or whitewashing.

#### Is Light, Compact, Easy to Operate

Tank holds 15 gallons; will not slop or spill. Pump has large air chamber. Bronze ball valves; valves are removable, cannot clog; Well made; gives a pressure of 275 lbs., has mechanical agitator and strainer for suction. Outfit complete, 10 feet  $\frac{3}{8}$ -inch hose, 8-foot extension in two pieces, one T-handle shut-off, one "Ideal" nozzle; shipping weight, crated, 130 lbs.

**Price \$48.00**

Just right for City and Suburbs



#### BROWN'S AUTO-SPRAY No. 1

The Auto-Spray No. 1 is strong and simple in its working parts. Two pumpings of about 15 strokes on the plunger will discharge contents under high and constant pressure. The Sprayer is equipped with our patent non-clogging nozzle.

The Solution Tank holds about 4 gallons and is made of galvanized steel or heavy sheet brass. We recommend brass as it will not corrode with strong solutions and is more lasting.

The brass air pump, made of seamless tubing, is provided with our Cam Locking Device which closes the filler opening airtight with a half turn of the pump handle.

Made without screws or bolts. Easy to take apart.

Valves and washers resist oil and other solutions that attack rubber. Diameter, 7 inches; height, 2 feet; capacity,  $3\frac{1}{2}$  gallons; weight, empty, 7 lbs.; weight, loaded, 39 lbs.; weight, shipping, 15 lbs.

**Price, galvanized with auto pop nozzle, \$8.50, brass, \$12.50.**

Auto Spray No. 1

#### ACME COMPRESSED AIR SPRAYER

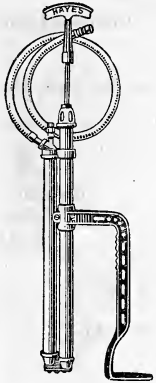
Made of strong galvanized steel or brass with locked seams tested to 60 lbs. air pressure. Brass pump-seat, bronze ball check-valve easily removable, seamless brass cylinder  $1\frac{1}{2}$  inches in diameter, solid brass, non-corrosive, self-cleaning nozzle with spiral point, producing whirling spray, an exclusive patented feature producing a finer and better spray than any other pressure sprayer. Capacity 3 gals., adjustable carrying strap, 3-foot extension

**Price, brass, \$12.25. Price, galvanized, \$8.25**



Acme

## Spray Pumps and Sprayers—Continued

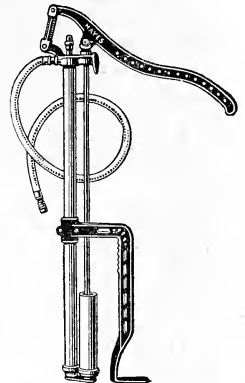


### PORTLAND SEED CO.'S BUCKET PUMP

This little pump is very convenient for all sorts of small work. Has brass cylinder and valves, two nozzles, for fine or coarse work, and an extra solid stream cap. Weight 6 lbs. Price \$6.25

### LEVER HANDLE BUCKET PUMP

The lever handle and large air chamber make this the most powerful bucket pump and the easiest one to operate. All working parts are solid brass with brass ball valves and patent agitator. Fitted with graduating nozzle to throw a fine or coarse spray or a solid stream. Weight 8 lbs. Price \$9.00



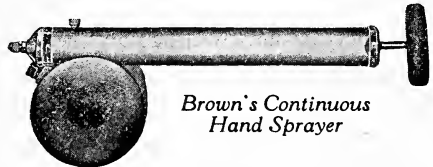
### STANDARD SPRAY PUMP

A powerful direct-action force pump, made entirely of brass—no packing to decay, no iron to rust. Can be used with a bucket tank or knapsack.

Equipped with combination nozzles producing a fine mist—a wide spray 15 to 20 feet, or a solid stream 50 to 60 feet.

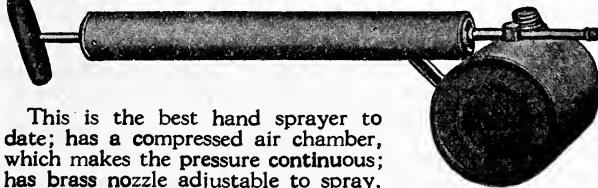
Price, pump only, with 3 nozzles...\$6.00

### BROWN'S CONTINUOUS HAND SPRAYER



*Brown's Continuous  
Hand Sprayer*

### DIAMOND HAND SPRAYER



This is the best hand sprayer to date; has a compressed air chamber, which makes the pressure continuous; has brass nozzle adjustable to spray, fine or coarse; brass ball valve; is simple in construction, light and durable; works easy. Wt. 1½ lbs. Price \$1.15

This is the best hand sprayer to date; has a compressed air chamber, which makes pressure continuous; has brass nozzle, adjustable to spray, fine or coarse; brass ball valve; simple in construction; light, durable; works easy. Weight 1½ lbs.

Price, tin \$1.25; galvanized \$1.50; brass \$1.75

### ASPINWALL SPRAYER



Fig. 30. One of the most convenient and economical sprayers for liquid lice-killers, sprays, etc. Weight 1¼ lbs. Price 70c

### ACME SINGLE POWDER BELLOWS



Fig. 20. Excellent for blowing powder on vines and bushes; good size, and works fine. Weight 2 lbs. Price \$1.25

### PLUVIUS LAWN SPRINKLER



Properly constructed, iron stand, upper part all brass. Turns with small force. Weight 3¼ lbs.

Each \$2.00

### BUSY

A regular water flirter, run easy. Weight 2 lbs.

Price \$1.25



*Pluvius*

*Busy*

### BLOW POWDER SPRAYER

A serviceable tin dust sprayer. Weight 1¼ lbs. Price each \$1.00

### INSECT POWDER GUN

No need to waste any powder if you use this small hand powder blower to apply powder of any kind on poultry, dogs or cats.

Price, each, small 15c, large 30c, postpaid

**SPRAYING to be effective MUST BE WELL DONE—**  
**Gould Spray Pumps** will give and maintain the necessary pressure to spray right. They are built for lasting service. See page 116



## Nozzles, Connections and Hose Supplies

**Non Clog, Jr.** Best hop nozzle; throws a perfect spray; of greater capacity and a great improvement over other nozzles; produces a fog in great volume at a light pressure. Weight 8 oz. **Price \$1.00**

**Vermorel Nozzle.** With degorger, affords a conical discharge. Very popular. Weight 4 ozs. **Price \$1.25**

**Seneca.** Gives a very wide spray; discharge easily graduated. Use this nozzle for white-washing. Weight 5 ozs. **Price \$1.50**

**Nozzle Ell.** Weight 2 ozs. **Price 25c**

**Hose Connection.** For nozzle or extension. Weight  $\frac{1}{4}$  lb. **Price 35c**

**Hose Reducer.** For nozzle or extension. Weight 3 ozs. **Price 45c**

**Double Cut-off.** Weight 2 lbs. **Price \$2.50**

**Brass Y,**  $\frac{1}{4}$ -inch, for nozzle only. Weight  $\frac{1}{4}$  lb. **Price 50c**

**Brass Yerdon's Bands,**  $\frac{1}{2}$ -inch.

Each 10c; doz. 75c; Postpaid 85c

**Caldwell Bands.**

Doz postpaid  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch 35c

**Bamboo Extension.** Has iron pipe inside of bamboo, threaded for nozzles and stopcock.

**Price:**

	Bamboo	Bamboo
2 to 4 ft. ....	\$1.15	10 ft. .... \$2.00
6 ft. ....	1.45	12 ft. .... 2.25
8 ft. ....	1.75	

With Stopcock Add \$1.00

**Stopcock.** Weight  $\frac{1}{2}$  lb. **Price \$1.00**

**Spray Hose Couplings.**  $2\frac{1}{2}$ -inch shank for heavy pressure spraying.

For  $\frac{1}{2}$  or  $\frac{3}{8}$ -in. hose, price, pair 75c postpaid

**Hose Couplings,** for garden hose,  $\frac{1}{2}$ -inch or  $\frac{3}{4}$ -inch, complete. **Price per pair, 40c; post-paid, 45c**

**Hose Washers.**  $\frac{1}{2}$ -inch, rubber. **Doz. 10c**

### FOR SPRAY PUMPS AND GARDENS

**NOTE**—All our hose, excepting spray, is furnished in 50-foot lengths, and comes coupled ready for use. We will cut any of these hose in 25-foot lengths at an additional cost of 35c for couplings. We will cut  $\frac{1}{2}$ -inch Pomona and Monarch Spray Hose in any length desired, at an extra cost of 75c for spray couplings in less than 50-foot lengths.

**MONARCH SPRAY HOSE**—Absolutely the best hose we can buy; the rubber is of exceptionally good quality and is very heavy; and we do not hesitate to recommend it to orchardmen, who must have a very high-grade and strong spray hose.  $\frac{1}{2}$  inch per foot 27c

**AJAX**—A splendid molded hose, will stand high pressure. 3-8 inch only. **Per ft 23c**

**POMONA SPRAY HOSE**—Has stood the test of time and hard usage, and has always proved good. **Price  $\frac{1}{2}$ -inch per ft 17 $\frac{1}{2}$ c**

**SUCTION HOSE**—This is an excellent grade of suction hose, and is what we furnish with our regular pump outfit.

Per ft 3-4 in 40c, 1-in 60c,  $1\frac{1}{4}$ -in 70c

**CORRUGATED GARDEN HOSE**—A new process, corrugated rubber hose, that will not kink or break. Especially recommended for florists and gardeners who use hose continuously.

**Price per ft,  $\frac{1}{2}$ -in 18c, 3-4 in 20c**

**ST. HELEN'S GARDEN HOSE**—Where a hose of medium price is wanted it will give excellent satisfaction. **Price  $\frac{1}{2}$ -in per ft 12 $\frac{1}{2}$ c**

**COTTON GARDEN HOSE**—5 ply.

**Price per ft  $\frac{1}{2}$ -in 18c; 3-4 in 20c**

### SPRAY CALENDAR—WHEN TO SPRAY, WHAT TO USE

Insect or Disease	Plant Attacked	What to Spray With	First Spraying
Codling Moth.....	Apple, Pear.....	Arsenate of Lead.....	Just before calyx cups close.
San Jose Scale.....	.....	Scalecide, Standard Sulphur Lime Solution.....	When leaves are off the trees.
Oyster Shell Bark Louse.....	Apple, mainly.....	Standard Sulphur-Lime Solution.....	When leaves are off the trees.
Peach Moth or Twig Borer.....	Peach.....	Scalecide, 1 part to 20 parts water.....	When the insects appear.
Woolly Aphis.....	Apple.....	Scalecide, 1 part to 40 parts water.....	When the insects appear.
Aphis.....	Roses and plants.....	Aphiscide, Nicoticide.....	Just as soon as the insects appear.
Cabbage Worm.....	Cabbage.....	Bug Death (non-poisonous).....	Before the worms eat into the cabbage.
Cabbage Aphis.....	Cabbage.....	Scalecide, 1 part to 40 parts water.....	When the insects appear.
Slug.....	Pear, Cherry, Peas.....	Slug Shot or Bug Death.....	When the insects appear.
Thrips.....	Roses.....	Thrip Juice, or Aphiscide.....	When the insects become cottony (May).
Cottony Scale.....	Pear, Currant.....	Scalecide, 1 part to 40 parts water.....	Just before blossoms open.
Scab.....	Apple, Pear.....	Bordeaux.....	Immediately after leaves fall.
Blackspot Canker.....	Apple.....	Bordeaux, double strength.....	Before buds burst.
Leaf Curl.....	Peach.....	Standard Sulphur-Lime Solution.....	
Mildew.....	Gooseberry.....	Potassium Sulphide, 1 oz. to 2 gallons water.....	Just as buds burst.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS. PAGE TWO OF CATALOG

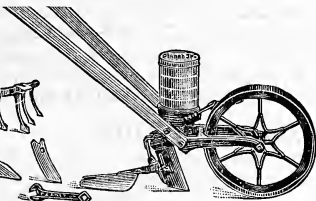


# Planet Jr. Garden Tools

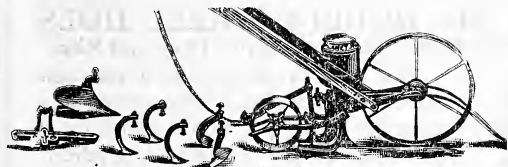


FOR over 45 years Planet Jr. Garden Tools have stood the test of world-wide usage, and are recognized in every known country as the highest type of garden implement. In Europe, where labor is cheapest, Planet Jrs. are in constant use. How, then, can you afford to be without them where labor is both high and scarce? We cannot tell you all about Planet Jrs. in this catalog, but will send you the beautiful 72-page Planet Jr. book on request.

Being general selling agents for Planet Jr. Implements, our stocks are large and orders will have prompt attention. State your requirements. We will advise the correct tool.



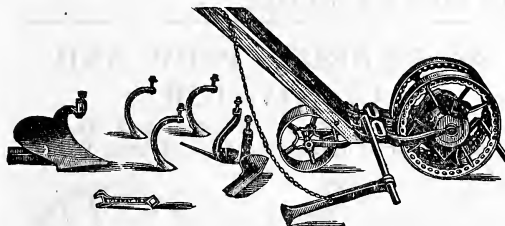
No. 31—Combination Drill, Seeder and Wheel Hoe



No. 6—Combined Planet Jr.



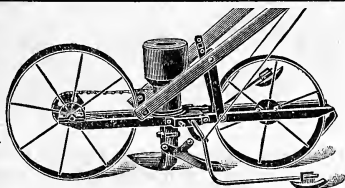
No. 3—Hill and Drill Seeder



No. 1—Planet Jr.

**IRON  
KING  
SEED  
DRILL**

*For Onion  
Growers*



A well-made, durable and easy running machine, accurate and reliable, and with careful use will last a lifetime. It will save the price of the machine in sowing a few acres. If you are growing onions you cannot afford to be without one. Sows anything from turnips to peas. Weight packed 85 lbs. Price \$15.00

## No. 31 PLANET JR.

### New Combined Drill Seeder and Wheel Hoe

For the home garden this new Planet Jr. is the ideal tool—a combined seeder and wheel hoe at a price that anyone can afford. The seeder will plant any amount, even a small packet accurately and evenly—any kind of garden seed—from a  $\frac{1}{4}$ -inch to 2 inches deep. The change to a wheel hoe is quickly and easily made—for equipment see illustration. Seeder holds 1 qt. Weight packed 32 lbs. Price \$16.75

## No. 6 PLANET JR.

### Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

It drops all garden seeds in hills and sows in drills, with the greatest regularity, to any depth, covers, rolls down and marks the next row. As a wheel hoe, it hoes, cultivates and plows at every passage up to 16 inches in width. Holds over 2 quarts of seed. Price complete \$29.00. Wt. packed 63 lbs. As Seeder only \$26.00. As a Wheel Hoe only (No. 36) \$15.00.

## No. 3 PLANET JR.—Hill and Drill Seeder

A favorite among onion growers, market gardeners and seedmen. The special force feed is admirable, working equally well whether sowing with an ounce or a full hopper. 15-inch Steel Driving Wheel. Holds 3 quarts of seed. Weight packed 43 lbs. Price \$23.50.

## No. 1 PLANET JR.

### Combined Drill Seeder, Wheel Hoe, Cultivator and Plow

The sowing cylinder is a drum of spring brass set between the driving wheels, with a sliding brass band and cam. In drum and band are corresponding diamond shaped discharge openings, quickly adjusted for any kind of seed. Inside the drum, shields cover the openings, and insure regular sowing with a full hopper or a thimbleful. Holds 3 pts. of seed. Wt. packed 47 lbs. Price with tools as shown, \$20.50.

## No. 4 PLANET JR.

### Combined Hill and Drill Seeder, Wheel Hoe, Cultivator and Plow

This tool combines in a single convenient implement a capital hill-dropping seeder, a continuous row-seeder, single wheel hoe cultivator and garden plow. Holds  $2\frac{1}{2}$  quarts of seed. Price complete \$25.25. Weight 50 lbs. As Seeder only \$20.25.

## No. 25 PLANET JR.

### Combined Hill and Drill Seeder and Double Wheel Hoe, Cultivator and Plow

Valuable for gardeners who have enough acreage for a double-wheel hoe. Combines in a most practical way the No. 4 Drill and No. 12 Double and Single Wheel Hoe. Holds  $2\frac{1}{2}$  qts. of seed. Weight packed 61 lbs. Price \$28.50.



# Planet Jr. Garden Tools

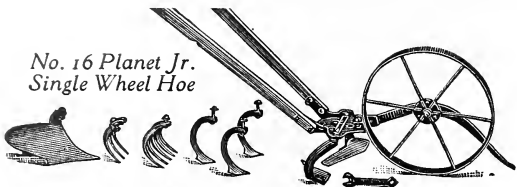


## PLANET JR. SINGLE WHEEL HOES

### No. 16 PLANET JR.

#### Single Wheel Hoe, Cultivator, Rake and Plow

No. 16 Planet Jr.  
Single Wheel Hoe



The No. 16 has 15-inch steel wheel, steel frame, one pair of 6-inch hoes, three cultivator teeth, one large garden plow, a 4 and a 7-inch rake, one leaf guard. The plow hoes and cultivator teeth are oil tempered. Is a complete equipment for every requirement. **Weight 26 lbs. Price \$14.00**

### No. 17 PLANET JR. SINGLE WHEEL HOE

You can do more and better hoeing with it in one day than you can do in three days with a hand hoe. The No. 17 has a pair of 6-inch hoes, a plow and a set of cultivator teeth, an outfit sufficient for most garden work. **Weight 24 lbs. Price \$12.00**



No. 11 Planet Jr.

## PLANET JR. DOUBLE WHEEL HOES

### No. 11. Double Wheel Hoe, Cultivator, Plow and Rake

The No. 11 is considered the best combined Double and Single Wheel Hoe made, having the largest assortment of useful tools and the frame being adjustable for any depth work. The attachments and their position can be changed in a few seconds. All edge tools are oil

### No. 12 PLANET JR.

#### Double Wheel Hoe, Cultivator and Plow

This tool is identical with No. 11 Wheel Hoe, except that it has one pair plows, one pair hoes and two pair cultivator teeth only, and is sold at a correspondingly less price. **Weight 33 lbs. Price \$17.00.**

tempered, see attachments illustrated—can be used in narrow rows as a single wheel hoe—as a double wheel hoe the arch will straddle plants 20 inches high. **Weight packed 39 lbs. Price with Attachments as in cut, \$20.50.**

## PLANET JR. SPECIALS PAGE 128 and 173

## STANDARD No. 20 GARDEN PLOW AND CULTIVATOR



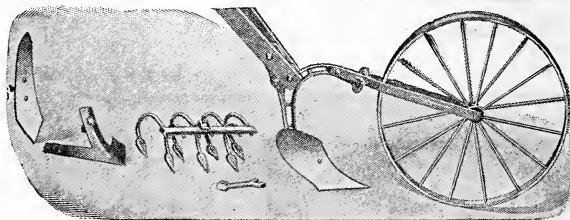
Not equaled by any other Cultivator. 24-inch wheel, without seeder. **Price \$7.00**

The above cut shows the Standard No. 20 with the Midget Drill Seeder attached. This seeder can be attached to other makes of cultivators of this style.

A cut of the Midget Seeder is shown, detached, on page 123.

## No. 7 GARDEN PLOW AND CULTIVATOR

5 Tools: Plow, Rake, Weeder and Double Diamond Point Markers. Has 24-inch Wheel.



No. 7. This has an 18-inch wheel and handles adjustable to proper working height. The special adjustment for depth gives easy control. **Weight complete 18 lbs. Price \$7.50**

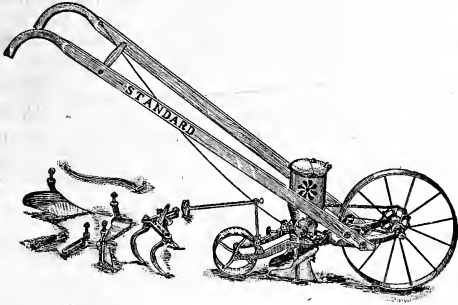
No. 6. The Swing Frame and extended curved handles insure easy running and a steady draft. The tools are sharpened and polished and will scour in use. 24-inch wheel. Similar to Standard No. 20. **Weight packed 24 lbs. Price \$7.00**



# STANDARD GARDEN TOOLS

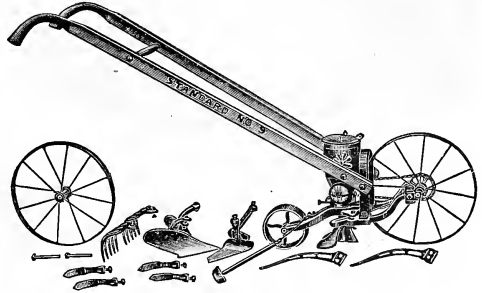
**T**HE quality of implements bearing the "Standard" trade-mark will always be so high as to merit your complete confidence. They have become widely and favorably known for superior design, perfect finish and great efficiency in operation.

We recommend the standard line to our customers.



**No. 12 Hill and Drill Seeder and Single Cultivator.** With tools as shown. Plants in hills from 4 inches to 2 feet apart, or continuous row. Instantly changed from hill to drill.

Price, complete .....\$21.50



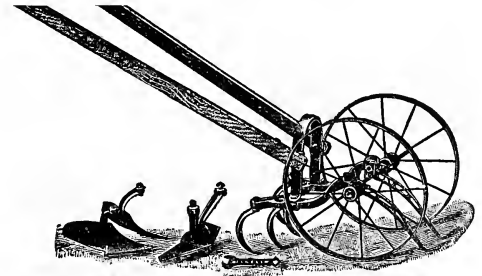
**No. 9 Hill and Drill Seeder.** Single or Double Wheel Cultivator, complete with equipment shown. This combination meets all the needs of the gardener who has not enough work to make separate tools necessary. The seeder plants either in hills or drills and is easily adjusted.

Price, complete as shown .....\$25.00



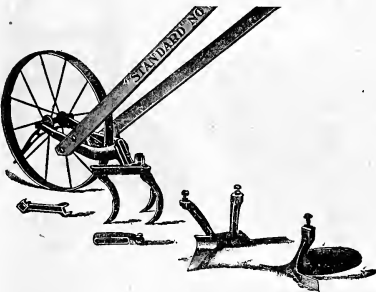
**No. 14 Single Wheel Hill and Drill Seeder.** Same as No. 12 except that it has no cultivating attachments.

Price.....\$19.25



**No. 13 Single and Double Wheel Cultivator.** With tools as shown in cut. Wheels 16 inches high with an adjustable gauge for depth.

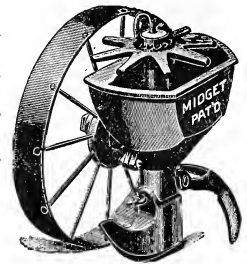
Price, .....\$15.00



**No. 22 Single Wheel Cultivator.** With tools as shown. Same as No. 12 except that it has no seeder.

Price.....\$11.00

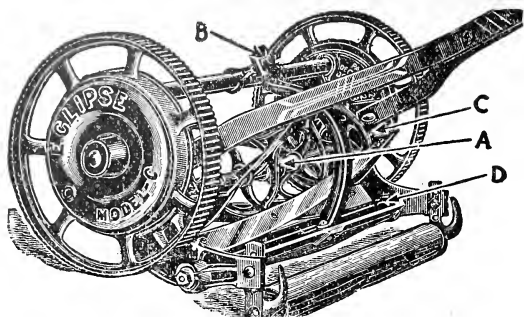
**No. 1 Midget Drill Seeder.** The Midget will handle accurately almost any kind of garden seed from the smallest up to peas and beans. The hopper holds one pint yet it will drill out clean a 5 cent package of seed just as well as a hopper full. It has but few parts and easy of adjustment. This seeder will attach to the No. 20 Standard cultivator shown on page 123 of this catalog. This seeder will fill a long felt want as it will enable people with small gardens to have a reliable seeder and cultivator at a low price.



Price for seeder.....\$6.00



## GARDEN TOOLS AND SUPPLIES

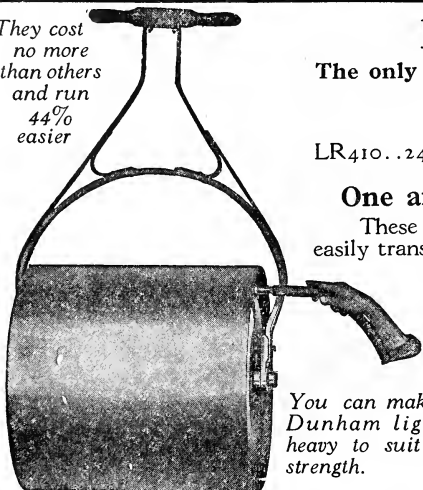


### Lawn Mowers

**ECLIPSE—Self Sharpening**—This is one of the best built, most durable and satisfactory Lawn Mowers. The thumb-screws for bringing the revolving and stationary blades into position are easily adjusted—as is also the arrangement for sharpening all blades to fit so they cut like shears. Bronze bearings.

14 in. cut, 10 in. wheel.....	\$17.50
16 in. cut, 10 in. wheel.....	18.50
18 in. cut, 10 in. wheel.....	19.00
20 in. cut, 10 in. wheel.....	20.00

They cost  
no more  
than others  
and run  
44%  
easier



You can make the  
Dunham light or  
heavy to suit your  
strength.

### Dunham's Lawn Rollers

The only Lawn Roller with Automobile Roller Bearing Axles

PRICES—F. O. B. PORTLAND

LR410..24X24	2	450	Sec. Wgt.	\$27.00	LR407..20X24	2	300	Sec. Wgt.	\$21.00
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### One and Two-Section "Water-Weight" Rollers

These can be filled with water or sand, and when empty are easily transported, adjusting the weight to suit.

	Sec.	Empty	Water	Sand	
WB7...24X24	1	125	500	800	21.50
WB15...24X24	2	145	500	800	26.50

### "WOOD-LARK"

TRADE MARK

**SQUIRREL  
AND GOPHER  
POISON**

QUICK, CERTAIN,  
→ DEADLY ←

Exterminates Squirrels,  
Sage Rats, Field Mice.  
Pocket Gophers, Prairie  
Dogs, Crows. Use early  
when green food is scarce.  
Price 1 lb package 60c



### REDDICK MOLE TRAP

No Mole Can Pass Under It  
and Live

These traps are strong and durable and worth the price to anyone troubled by moles.

Full Directions with  
each trap.

(See cut)  
Weight 3 lbs.  
Price \$1.75

Reddick  
Mole Trap

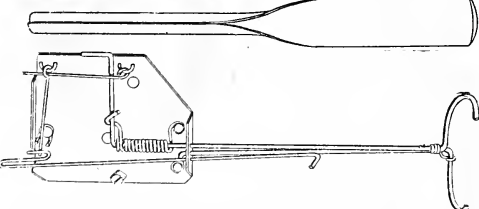


Out O'Sight  
Mole Trap

**OUT O'SIGHT MOLE TRAP**—One of the best. Sure to "get them." Weight 2 lbs.

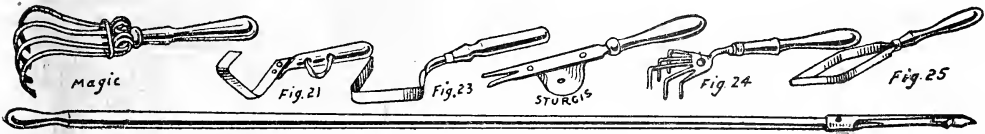
Price \$1.75

**GOPHER TRAP** — Easy Set — Never fails. Weight 1 lb. Price, each, 25c

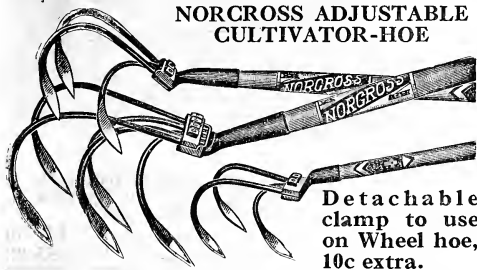


**CINCH GOPHER TRAP**—Fits the hole, a sure killer and the most satisfactory trap. Weight 1 lb. Each 85c

## Garden Tools, Implements, Etc.—Continued



Hall's Dandelion Puller



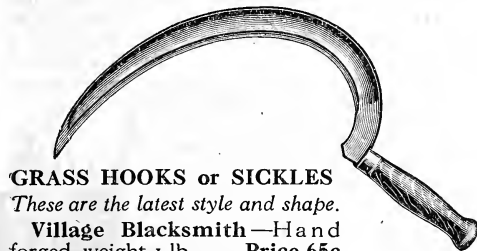
**NORCROSS ADJUSTABLE CULTIVATOR-HOE**

Detachable clamp to use on Wheel hoe, 10c extra.

Like a human hand, the fingers of the "Norcross" work closely around the plants without injury. Keeps down weeds, saves moisture, leaves the ground level.

**FIVE PRONG** for regular garden work; 4-ft. handle, weight 4 lbs. . . . . \$1.00

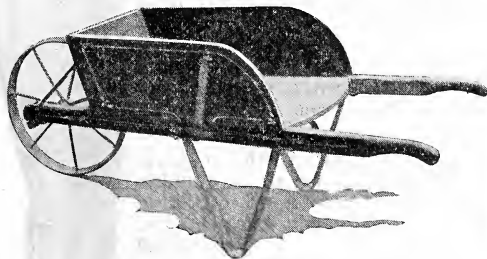
**THREE PRONG** lighter in weight, for narrow rows and close work, 4-ft. handle, weight 3 lbs. Price 85c



**GRASS HOOKS or SICKLES**  
*These are the latest style and shape.*

**Village Blacksmith**—Hand forged, weight 1 lb. Price 65c

**GRASS SHEARS**  
**Village Blacksmith.** No. V51. 1 lb. \$1.00



**AMERICAN GARDEN WHEELBARROW**  
20-inch steel wheel with 2-inch oval tire. Solid steel axle and malleable axle boxes. Oval pressed steel legs. Vermillion finish and varnished. Light but rigid—built to last. Shipped K. D.

**No. 1**—Size of deck 17 x 22 x 29 Price \$8.00

### HAND WEEDERS

**Magic Weeders**—Made of best quality hard steel wire, an ideal tool for fining the surface soil. We offer three sizes, illustrated above:

**Magic No. A**, 3 tines, short handle, weight 1 lb. Price 30c

**Fig. 21. Lang's.** Weight 1 lb. Price 25c

**Fig. 23. Hazeltine's.** Weight 1 lb. Price 35c

**Fig. 24. Excelsior.** Weight 1 lb. Price 25c

**Fig. 25. Noyes'.** Weight 1 lb. Price 30c

**Hall's Dandelion Puller** (see cut)—Pulls the root without tearing up the lawn; long handle; polished steel blade. Weight 2 lbs. Price 60c

### GARDEN TROWELS



No. 217

Don't class these tools with the cheap stock offered by the department stores.

**Maynard Steel Shank**—Extra heavy. Price \$1.00

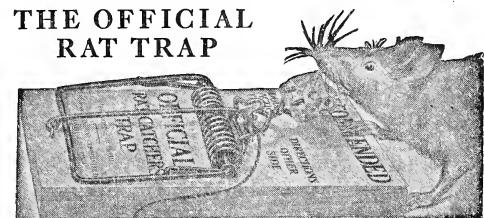
**No. 85**—New style long handle. Weight 1 lb. Price 50c

**No. 217**—Six inch; steel transplanting trowel. Weight 1 lb. Price 30c

**No. 217A**—Transplanting hoe trowel, used by gardeners in setting out plants. Weight 1 lb. Price 50c

**No. 216**—Ladies' flower trowel. Weight 1 lb. Price 15c

### THE OFFICIAL RAT TRAP



The Government selected this trap from among thousands of models submitted. Spring releases with either upward or downward pressure—Rats Nibble Upward. The "Official" always gets them.

**Official Rat Trap**, weight 1 lb. Each 20c  
**Official Mouse Trap**, weight 4 oz. Each 5c

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## The Clipper Grain and Seed Cleaner

Used by all Agricultural Colleges and by the U. S. Department of Agriculture

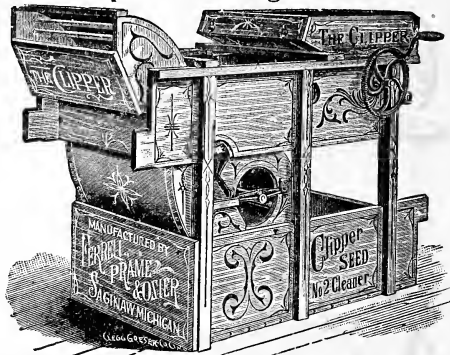
No work done on the farm brings such large returns as thoroughly preparing the grain and seed by recleaning and grading for planting. This insures an even stand of strong, healthy plants, and a larger yield of a higher grade. The "Clipper" cleaner is especially adapted to this kind of work on account of its ability to separate the small, also the light, dead seed or grain from the perfect seed or grain.

Other mills depend entirely upon screens for this work, and with unsatisfactory results. The "Clipper" screens all straw and foreign matter from the grain before it enters the air shaft, and the "Vertical Blast" does the rest.

Screens are so arranged as to be in plain view and of easy access to the operator while machine is in operation, and a set of 10 being furnished with either the No. 1B or No. 2B. These are ample for general work—but special screens can be furnished for any cleaning operation.

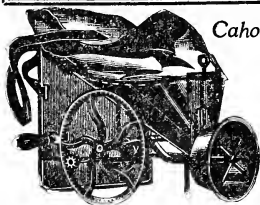
The "Clipper" is a first-class, inexpensive and durable mill for general use.

**PRICES.** No. 1B—Capacity 40 bu. wheat or 12 bu. of clover per hour. Wt. packed, 200 lbs, **\$47.00**  
No. 2B—Capacity 20 bu. clover seed per hour. Wt., packed, 250 lbs, **\$55.00**



Guaranteed to do the most perfect work of any Hand Seed Cleaner manufactured and durable mill for general use.

We have supplied "Clipper Cleaners" to the mills, dealers and prominent growers of the Northwest. If you grow grain or seed and do not own a "Clipper," you are losing many times its cost every year. Let us send you The "Clipper" Catalog of hand and power cleaners. All sizes and prices. A "Clipper" will improve the quality and increase the yield of grain.



Cahoon

## Broadcast Seed Sowers

**CAHOON**—The standard broadcast seed sower of the world, made of steel, iron and brass and with ordinary care will last a lifetime. This is the most popular and best built seed sower; has a force feed and does excellent work. Instructions with each machine. Weight 9 lbs.

Price **\$5.00**

**TIN HORN SEEDER**—Adjustable. A good serviceable seeder at a very low price. Weight 1 lb.

Each **\$1.15**

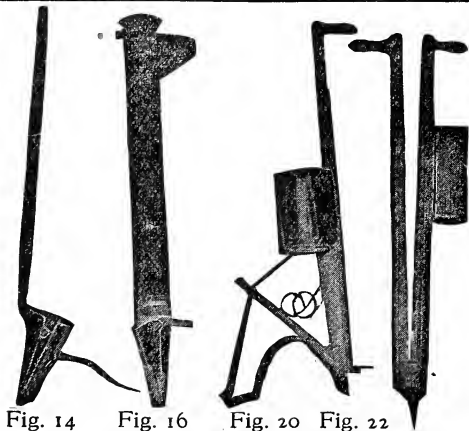


Fig. 14 Fig. 16 Fig. 20 Fig. 22

### CORN PLANTERS

**ACME AUTOMATIC**—One Hand (Fig. 20)—Puts the right number of kernels just where you want them and at the proper depth, requiring only one hand, either right or left. Weight, packed, 6 lbs.

Price **\$3.25**

**ACME**—(Fig. 22)—A two-handed planter. Light, well made, and especially adapted to heavy, cloddy or stony soils. Adjustable—from popcorn to large kidney beans. Weight, packed, 4 lbs.

Price **\$1.85**

### MASTER'S PLANT SETTER

With a "Masters" you can set, water and fertilize 10,000 plants a day and do better work than if set by hand. Works as fast as you walk. Sets cabbage, kale, celery, tomatoes and vegetables plants of all kinds. Weight, packed 5 lbs.

Price **\$6.50**

### POTATO PLANTERS

**PEERLESS**—Tubular (Fig. 16)—This light tubular planter locks itself as it is lifted out of the ground and the next potato may be dropped in at once. Opens automatically by forward movement. Weight, pld. 5 lbs.

Price **\$2.35**

**PINGREE or ACME**—(Fig. 14)—Similar in action to the tubular. You lift the planter up to drop in the potato. Weight, packed, 4 lbs.

Price **\$1.60**

### CORN KNIVES

**NIAGARA**—Broad tapered blade. Length including handle 22½ in., weight, packed, 2 lbs. Price **85c**

### VILLAGE BLACKSMITH

Straight blade 22½ in., including handle. Wt. pld. 2 lbs. Price **\$1.00**





## PRUNING TOOLS, ETC.

NOTE—Compare Numbers on cut to those in descriptions

### PRUNING SHEARS



#### NEW BASTIAN PRUNER Makes a Clean Sharp Cut

The powerful lever of the new Bastian Pruner enables you to do the same work in half the time and with half the labor that would be required with old-style Pruners.

Blades are of finished Damascus steel, very strong, and hold their cutting edge. Simple in construction, light, strong and durable. We recommend the Bastian to all fruit growers.

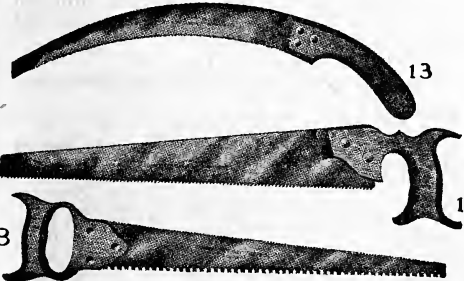
#### Prices F. O. B. Portland

6-ft. . . \$1.75	12-ft. . \$2.50
8-ft. . . 2.00	14-ft. . 2.75
10-ft. . . 2.25	16-ft. . 3.00

Bastian

### PRUNING SAWS

- No. 13—California Pruner (Crescent). Finest silver steel. 14 inch. Each \$1.25  
 No. 1—Pruning Saw. Made of genuine silver steel. 16 inch, each \$1.35; 18 inch, ea. \$1.50  
 No. 3—Duplex Pruner. 16 inch, each \$1.50; 18 inch, each \$1.75.



No. 4773—9-inch; full polish, with double brass springs; best American make. Weight 1 lb. Price \$2.85

No. 40—9-inch; bright finished, polished blade, spiral steel spring; made for hard service. Weight 1 lb. Price \$2.25

No. 41—Same as No. 40, except with ratchet nut. Weight 1 lb. Price \$2.50

No. 30—7-inch; black finish; polished blade; very good. Weight 1 lb. Price \$1.75

No. 31—Same as No. 30, only 9-inch ratchet nut; an American make. Wt., 1 lb. Price \$2.00

No. 50—Five and a half-inch, nickle-plated; small, but of best material; fine for ladies. Weight 1 lb. Price \$1.25

Levins Shear No. 23. Price \$1.00

Grape or Fruit thinning. Price 65c

### BRANCH SHEARS

We offer special designs No. 777 and 707. No. 126—26 inch. Weight 5 lbs. Price \$3.00

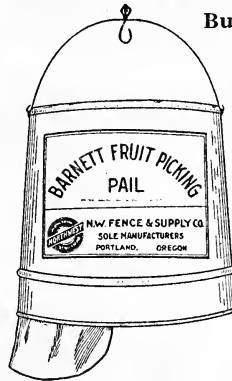
Fig 35—Standard pattern. Satisfactory for light work; a good value.

26-inch handle, weight 2½ lbs. \$1.75—  
 41-inch handle, weight 3 lbs., \$2.00.

### BARNETT FRUIT PICKING PAIL

#### Built for Service

Galv. Iron with strong canvas open bottom.



A great labor saver. Wt. 3¼ lbs. Price each, \$2.75



### NORTHWEST FRUIT PICKING LADDER

6, 8, 10 and 12 ft. lengths. Strong, light and serviceable. Prices, 6ft. \$4.25, 8 ft. \$5.95, 10ft. \$7.05, 12 ft. \$9.20.

### GRAFTING WAX

Lion Brand—¼ lb. 25c—½ lb. 30c—1 lb. 60c  
 Add postage at zone rate.

### Planet Junior Specials

We have only a limited number of the following tools, and offer at reduced prices until sold:

No. 4. Plain five-tooth expanding—one-horse Cultivator with wheel. Weight 56 lbs.

Special at \$17.00

No. 45. Riding Harrow and Cultivator for preparing ground for grain or vegetables or for general orchard work—complete with extension.

Special at \$50.00

No. 10. Combination Farm and Garden Horse Hoe, Cultivator, Furrower, Plow and Vine Turner. Weight 112 lbs. Price \$20.00

Planet Jr. Grass Edgers runs on the walk or grass equally good on curved or straight work. Weight 26 lbs. Price \$9.75

No. 70. Pivot Wheel Riding Cultivator, Furrower and Ridger. Special at \$50.00

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG





## MISCELLANEOUS FLORISTS' SUPPLIES

### FOR FLORISTS AND NURSERYMEN

**PLANT STAKES**—Round cedar, painted green,  
3 ft \$1.00 doz—3½ ft \$1.25—5 ft \$2.00—  
6 ft \$3.00.

**VITAPLASTIC**—Glazing Compound—The best, most dependable glazing material. Never hardens or cracks. Write for circular. Price, gal \$2.50—5 gals \$11.25—30 gals \$64.50.

**VITAPLASTIC MACHINE** \$7.50

### WOODEN POT LABELS

4-inch. Plain, per 100 20c—1,000 \$1.30

Painted, per 1,000, wt pkd 4 lbs, \$1.75

5-inch. Plain, per 100 25c—1,000 \$1.90

Painted, per 1,000, wt pkd 6 lbs, \$2.50

6-inch. Plain, per 100 20c—1,000 \$2.40

Painted, per 1,000, wt pkd 9 lbs, \$3.00

**WIRED TOOTH PICKS**—2½ inches long.

**WIRED MATCH STICKS**—4 inches long.

**WIRED MATCH STICKS**—6 inches long.

**NICO FUME LIQUID**—The best fumigant and spray for greenhouse work. Kills aphid, red spider, mealy bug, thrip, etc. Write for prices

### TREE LABELS

Painted copper wire. Per 100 25c—1,000 \$2.00

Unpainted copper wire. Weight pkd., 4 lbs. per 1,000. Per 100 20c—1,000 \$1.75


**PENCILS**—Indelible, for marking. Each 15c

**WIRE HANGING BASKETS**—10 in. 25c—  
12 in. 30c—14 in. 40c.

**GLAZING POINTS**—Peerless—Best point made. 1,000 in box. Weight 2 lbs. Price 90c

Our line of Chiffons, Ribbons, Cords, Wire Designs, Foil, Baskets and general Florist Supplies is very complete.

### RAFFIA

 In ordering Raffia by mail, be sure to add postage on 1 lb. or more.

**RAFFIA**—Natural color. Price ¼ lb 20c—postpaid, 25c; not postpaid, per lb 50c.

**COLORED RAFFIA**—Any shade, the popular colors being red, yellow, orange, black, blue and purple. Per pkg postp'd 25c, per lb \$1.50

Headquarters for **MAGNOLIA LEAVES**. Write for prices. We can save you money.

**CYCAS LEAVES**—Sizes 8 x 12, 12 x 16, 16 x 20, 20 x 24.

**WIRE**—Cut and uncut. Sizes 18, 20, 22, 24. Cut in 12 lb. boxes, and uncut in 12 lb. coils.

**WIRE DESIGNS**—For Florists, Anchors, Bases, Broken Columns, Broken Wheel, Crescent, Crescent Wreaths, Crosses, Odd-Fellows, Pillows, Shower Wreaths, Shields, Stars, Triangles, Wreaths flat. Tell us what you want and we will supply it. Write us regarding your needs.

Write us for your requirements in the **FLORIST Line**.

## CUT FLOWER BOXES

We can supply Cut Flower Boxes in the following sizes. Florists write for prices.


3 x18x5	3½x30x5	5x36x8	8x16x16
3 x21x5	4 x24x8	6x40x10	8x20x20
3½x24x5	5 x28x8	6x36x14	8x24x24

## BULBS IN SEASON


**FLORISTS and GROWERS.** We have direct connections with the best growers in **Holland** and **Japan**, and import in car lots and make special prices where orders are placed in advance, and it will be to your advantage to take this up with us before placing your order.

Orders should be given in May or early June to insure early delivery.

## FLOWER POTS

 Florists, nurserymen and growers should send list of requirements for Special Prices  
**FLOWER, FERN, AZALEA POTS OR BULB PANS ALL SAME PRICE**

Size	Each	Dozen	Saucers	Size	Each	Dozen	Saucers
2-inch	\$0.03	\$0.20	Each	7-inch	\$0.20	\$1.75	\$0.07
3-inch	.04	.35		8-inch	.25	2.50	.07
4-inch	.06	.50	\$0.04	9-inch	.40	4.25	.15
5-inch	.10	.85	.04	10-inch	.65		.18
6-inch	.15	1.25	.06	12-inch	1.00		.25

 **NOTE**—At above prices we will pack the pots carefully, but buyer must pay freight or express charges. We buy in carload lots and the wholesale trade, florists and nurserymen are requested to send for special prices, stating number wanted.

*Porch Boxes, Japanese Tubs, Hanging Baskets, Lawn Vases, Potted Plants*

*Specimen Ferns, Palms and Ornamental Plants furnished to order. We can assist you in securing special decorative effects for House or Garden*

*Tell Us Your Plans—WE CAN SAVE YOU MONEY*



# BEE SUPPLIES

**IF YOU** live in the suburbs, keep poultry, or live on a farm, keep a few stands of bees, they will amply repay you for the little attention they require, and will often return you a splendid profit.

**IF YOU OWN AN ORCHARD** then you must of necessity have bees if you would secure the largest crops of most salable fruit, for proper pollination is essential to best development. A most interesting series of experiments on the Pollination of the Apple, conducted by the Oregon Agricultural College, proves the total inadequacy of all pollenizing agents, with the single exception of Bees. The wind, which at first thought would seem dependable, is a total failure outside of the radius of a few feet, even under most favorable conditions, and very uncertain at any distance. Some few varieties are self-fertilizing, but these are vastly improved by crossing the pollen with other sorts, and the busy honey bee seems to be our sole reliance for effective work. Fortunately bees are easily obtained, are very little trouble, and an orchard and apiary make an ideal combination from a business standpoint. This subject is well worthy the careful investigation of all orchardists, and we would be pleased to hear from those interested.

**WE ARE THE PIONEERS** in the Bee Supply business in the Northwest, are thoroughly familiar with local conditions and requirements and if you are new to the business or the country we can be of much help in saving you any unnecessary outlay, work or loss of time and can start you on the right road to success. Stocks are large and complete and we can fill any size order on short notice and will give the small order just as careful attention as the larger one.

**WESTERN PINE AND CEDAR HIVES** made to our order in standard sizes and designs; of first class material and workmanship, are very popular with local beekeepers. Our Western lumber is satisfactory and lasting and we recommend them as being economical and serviceable.

The magnitude of our business and its steady growth is a guarantee of service and quality, and we look forward to the pleasure of serving you.

**PORTLAND SEED COMPANY**

## HOW TO ORDER

**WHEN TO ORDER.** Don't wait until your Bees have swarmed before you order your hives or supplies. Send in your orders early and be on the safe side.

**PREPAY STATIONS.** When you send in orders to go by freight or express, be sure that you add money enough to pay freight charges **if your station is a prepay, which is always the case where there is no regular agent.**

**BEE SUPPLIES BY MAIL.** The prices named in this catalog are **not postpaid unless so stated.** Many of the lighter supplies can be mailed, when it is necessary, but we believe express or freight the most satisfactory way of sending.

**LARGE ORDERS.** Perhaps you want only a hive or two and a few supplies; it may be your neighbors are in the same fix. This is your chance to make up a *club order* and secure your hives or supplies cheaper.

**PRICES**—All prices are subject to change without notice.

## CAUTION AGAINST SPRAYING WHEN TREES ARE IN FULL BLOOM

**T**HE best authorities advise against spraying until blossoms are ripe and falling, as by this time pollination is complete and spraying will accomplish its purpose from this time until calyx closes.

Spraying when trees are in bloom may destroy bees and other insects necessary to pollinate and these natural agents should not be interfered with as their work of transferring the pollen insures bountiful crops and shapely fruit.

This is generally understood by the best informed orchardists and growers and in many states there are laws against spraying when fruit is in flower.

Damage to fruit is often unjustly charged to bees for they cannot pierce the skin of even the softest fruits, but where there is a scarcity of blossoms, they will often work on fruit that has been bruised, damaged by birds or cracked by the weather, but are unable to destroy sound fruit of any variety.

## Sow Buckwheat for Fall Bee Pasturage

To insure plenty of winter stores for your bees, sow buckwheat any time in the late spring or early summer. It will bloom in about 60 days from planting and give an abundance of nectar much sought after by the bees. The honey is dark but makes good winter stores.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

# THE MODERN BEE HIVE

## For the Production of Comb and Extracted Honey

THE illustration shows the different parts that go to make up the standard dove-tailed hive. This term refers to the construction, the bodies and supers being dove-tailed at the corners. The lower compartment is known as the hive body or brood chamber. This stands on a bottom board which fits close to the body but is not attached thereto. The hive stand here shown is a separate part and may be ordered as an extra.

The brood chamber is the home and workshop of the bees. Contains eight or ten movable frames upon which the bees build the comb and cells for storing their stock of honey to feed upon. Also certain portions of these are used by the queen for depositing her eggs. Hives are referred to as 8 and 10-frame according to the number of frames.

A thin, movable partition is sometimes used to cut off the empty frames when the colony is small. This is known as a division board. There is one in each hive body.

When the colony fills the hive body they begin to store surplus honey in the super. This is the part that sets above the hive body and holds the section or little honey boxes. These are held in position by section holders, each of which supports a row of four sections; six rows in the 8-frame; seven rows in the 10-frame.

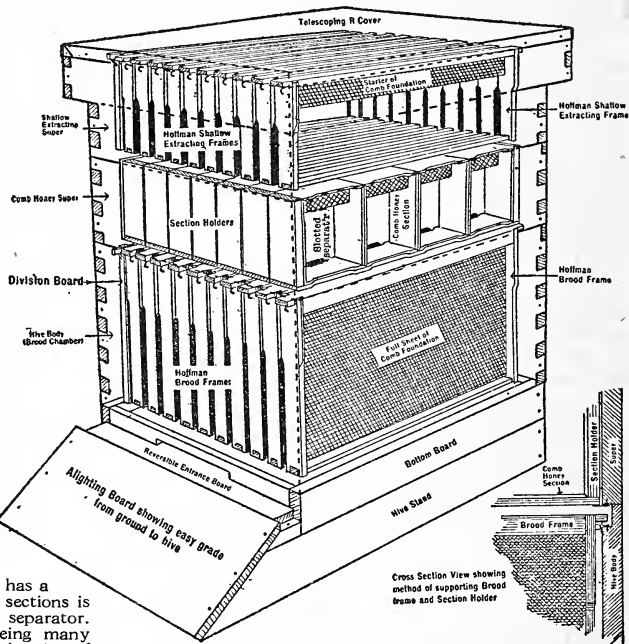
The standard section is  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  and has a slotted bee way. (See cut.) Each row of sections is separated by a thin veneering known as a separator. (A fence separator is also used, there being many styles of super furniture.) A little board the size of the super goes alongside of the separator to take the pressure of the super springs that are used to hold the sections and parts firmly in position.

On top of the super is the hive cover of which there are various styles, the Excelsior being the most popular in mild climates.

The extracting super is not commonly used on top of the comb honey super but is placed here for illustration. It properly belongs on top of the brood chamber.

If you wish to produce extracted honey you place a super fitted with shallow frames over the brood chamber and bees will store their surplus honey on these frames. Full hive bodies are often used for the same purpose.

The standard 8-frame hive body is  $9\frac{1}{2}$  inches deep by  $18\frac{3}{4}$  inches long by  $12\frac{1}{4}$  inches wide. The 10-frame hive is the same length and depth and  $14\frac{1}{4}$  inches wide. Supers are the same width and length as the bodies, but vary in depth according to furniture.



## Before You Get Your Bees, Choose a Location

GENERALLY speaking, bees are not very cross on arrival as the shaking they get causes them to fill themselves with honey and in this condition they are easily handled and not disposed to sting. Level up stand for bottom board, place hive where wanted; always open entrance first, using as little smoke as possible. The bees will boil out with a rush, although making quite a fuss, they will not likely be very cross and sting. You can then remove screen on top of hive, replace the cover, seeing it is down tight, leave alone for a day or so, then manipulate as necessary.

Do not condemn a colony of Italians because a few black bees appear; bees mix and visit among themselves. Italians as imported do not produce golden bees. Most of the darker strains are better honey producers than the golden bees. Straight five banded bees have been produced by selection but have not accomplished much as honey gatherers when compared with the leather colored, neither have they proven as hardy.

Don't get excited if a bee starts after you.


Don't fight and slap; walk slowly away a few paces, keeping face down, as a bee cannot fly upward and sting.

Don't use too much smoke, just a few puffs is generally sufficient.

Don't pinch the bees in handling or in taking out of the frames; that makes them cross.

Don't stand in front of the hive while working with the bees.

Don't forget that bees are the most interesting and profitable insects in natural history.

 Get an A B C and X Y Z of Bee Culture.



## Portland Seed Company's Hive Combinations

Our Western Pine and Cedar hives are standard sizes and well made, the mill work being first class, the material select kiln dried. They will prove durable and satisfactory in every way.

A complete hive consists of: 1 bottom board, 1 body, 1 super, 1 cover, necessary brood frames, sections, section holders and separators, 2 tightening springs for supers, 1 sheet medium brood foundation and 1 sheet light section foundation for starters. This foundation will make starters approximately 1 inch wide for brood frames and ½ inch wide for sections. If full sheets are wanted for either brood frames or sections, foundation should be ordered by the pound.

All parts of single hives will be shipped set up except sections. **Not less than 5 hives shipped K.D.** K. D. hives will be shipped in packages of five and will include nails.

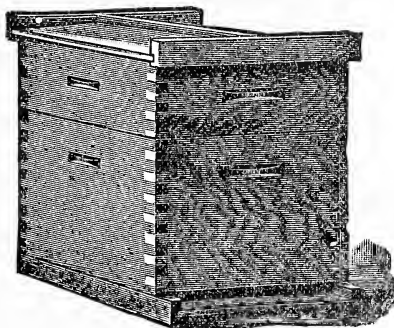
If additional supers or hive bodies are needed, they must be ordered separately.

If special equipment is wanted we will be pleased to give full information and prices on request.

## P. S. Co.'s Dovetailed Western Cedar Hives

These cedar hives are made especially for our Western trade. In construction they are the same as our pine hives, the only difference being that they are made of a superior quality of cedar, the best and most lasting wood for our Western climate. The sections and separators used in the supers are the regular No. 1 Eastern stock. Price and quality considered, they are splendid values.

	Each	K. D.	Wt.
	Nailed	5 of 5	
8 fr. Complete.....	\$4.15	\$17.00	140
10 fr. Complete.....	4.25	17.50	150
8 fr. Body. Empty.....	1.10	4.50	35
8 fr. Body. Complete.....	1.70	7.00	50
8 fr. Body. Less Foundation...	1.60	6.50	50
10 fr. Body. Empty.....	1.20	5.00	50
10 fr. Body. Complete.....	1.75	7.75	100
10 fr. Body. Less Foundation...	1.65	7.25	100



## P. S. Co.'s Dovetailed Western Pine Hives

This is our lowest priced hive and is the best value we can offer. It is standard size and well and carefully made of first-class lumber. The inside fixtures are just the same as in our regular pine hives and the sections supplied are of the best grade of white Eastern basswood. For general description of the different numbers see corresponding numbers and descriptions under Eastern Pine Hives below.

	Each	K. D.	Wt.		Each	K. D.	Wt.
	Nailed	5 of 5			Nailed	5 of 5	
8 fr. Complete.....	\$4.15	\$17.00	140	8 fr. Body. Less Fdn....	\$1.60	\$6.50	50
10 fr. Complete.....	4.25	17.50	150	10 fr. Body. Empty.....	1.20	5.00	45
8 fr. Body. Empty.....	1.10	4.50	40	10 fr. Body. Complete....	1.75	7.75	155
8 fr. Body. Complete....	1.70	7.00	50	10 fr. Body. Less Fdn....	1.65	7.25	155

### COVERS AND BOTTOM BOARDS

#### Western Pine and Cedar

8 fr. Covers.....Each	\$0.75	5 K.D.	\$2.75	10 fr. Covers.....Each	\$0.80	5 K.D.	\$3.00
8 fr. Bottom Boards.Each	.50	5 K.D.	2.00	10 fr. Bottom Boards.Each	.55	5 K.D.	2.25

## FEEDING BEES

**A** COLONY of Bees should have the frames in the Brood Chamber well filled before going into the winter season. An examination of the hives after the late honey flow will show their fitness for wintering, and if any are found light they should be fed before cold weather comes, as best results are obtained when working conditions are favorable and the bees can fly.

Do not delay feeding until spring, as spring feeding, owing to weather conditions, is seldom satisfactory, more often resulting in loss, whereas proper precautions taken in the early fall will result in the bees coming through strong and ready for early work.

**Syrup for feeding** can be made by taking equal parts of water and granulated sugar—cane sugar being preferable—thoroughly dissolving this into a clear syrup and feeding in any of the standard types of feeders. If cane sugar cannot be obtained beet sugar can be used.

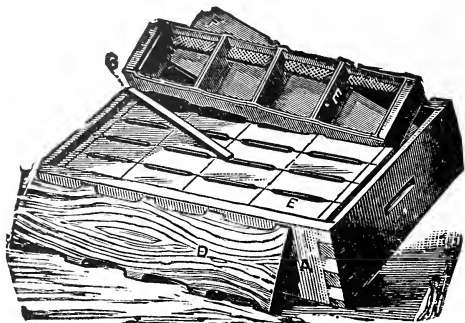
August and September are good months to feed in most sections.

While it is possible to have straight brood combs made on narrow starters, there is likely to be more drone comb than is desirable. Frames fitted with full sheets of foundation, wired, are more expensive if you figure first cost, but having once noted the advantage and convenience of full wired combs, the beekeeper will never again use narrow starters. No better investment can be made than to buy a full sheet of foundation for every new brood frame on the place.

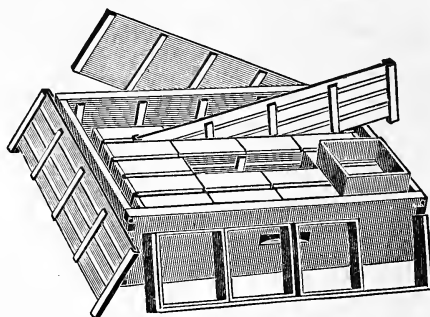
**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



## Portland Seed Co.'s Dovetailed Supers



*Super, Designated as 4-S or Fig. 1—Complete*



*Super, Designated as 4-P*

**S-SUPER.** This is one of the best supers sold for the use of  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  sections having beeways. It is constructed on the same general lines as the P-Super for plain sections, with the exception that instead of fences, we use wood separators (or slat separators), beeway sections, and section holders having bottom bars scored out to correspond with the beeways in the sections.

**I-SUPER.** The I-super is constructed similar to the P. The super is about  $\frac{7}{8}$  inches deeper, for the sections are  $3\frac{5}{8} \times 5$ ; but instead of being held by section holders they are supported by means of slats. There are five sections to each row, and the fences are so constructed that the cross cleats match with the uprights of the sections of this size. The Ideal super with its  $3\frac{5}{8} \times 5$  sections has come to be very popular in certain localities where a light weight, tall section seems to be in demand.

**P-SUPER.** This super takes the plain  $4\frac{1}{4}$  sections,  $1\frac{1}{2}$  inches wide. There are six holders and seven fences in 8-frame super. This provides for a fence between each of the outside rows and the super sides themselves. This arrangement practically secures almost as good fillings in the outside rows as in the center. It brings in a large cluster of bees around on both sides of the outside fence, and this cluster or wall of bees is very necessary to provide sufficient heat for comb-building.

### PRICES OF P. S. CO.'S DOVETAILED SUPERS

Unless otherwise ordered we always send S-super for the regular stock  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$  sections and wood separators. (See cut.)

Western Pine	Each Nailed	5 K. D.	5 Weight	Cedar	Each Nailed	5 K. D.	5 Weight
8 fr. Complete.....	\$1.75	\$8.00	40 lbs.	8 fr. Complete.....	\$1.75	\$8.00	35 lbs.
8 fr. Less Sec. & Fdn...	1.30	5.50	35 lbs.	8 fr. Less Sec. & Fdn...	1.30	6.00	30 lbs.
8 fr. Extracting.....	1.60	6.50	40 lbs.	8 fr. Extracting.....	1.60	6.50	40 lbs.
8 fr. Empty.....	.90	3.75	22 lbs.	8 fr. Empty.....	.90	3.75	20 lbs.
10 fr. Complete.....	1.90	8.50	45 lbs.	10 fr. Complete.....	1.90	8.50	40 lbs.
10 fr. Less Sec. & Fdn...	1.40	6.00	38 lbs.	10 fr. Less Sec. & Fdn...	1.40	6.00	35 lbs.
10 fr. Extracting.....	1.60	7.00	45 lbs.	10 fr. Extracting.....	1.60	7.00	42 lbs.
10 fr. Empty.....	1.10	4.75	25 lbs.	10 fr. Empty.....	1.10	4.75	22 lbs.

Extracting supers are deeper and take the Half-Hoffman shallow extracting frames.

## PREPARING BEES FOR WINTERING

**I**n the mild climates of Western Oregon and Washington, Bees can be wintered in the open in ordinary hives, the double wall hives and packing, such as is commonly used in severe climates not being necessary.

An open shed or a suitable shelter should be provided that will keep the rain off, and if possible, let in the sunlight, in fair weather.

The hives should be placed on dry stands, that are high enough off of the ground to prevent any absorption of moisture from the soil, and a very important point is to raise the back of the hives enough to give good drainage along the bottom board through the entrance for any moisture that might accumulate by condensation.

If the Colonies are queenless, they should be doubled up with a colony that has a queen. This is easily done by placing a single sheet of newspaper over the top of the bottom hive and placing the hive with the queenless colony on top, the bees will work their way through the paper and mingle in perfect harmony. If a small swarm with a queen—covering four or five frames—it is best to close up the vacant space in the hive with a division board. This affords a little better condition that often enables a light swarm to get safely through the winter.

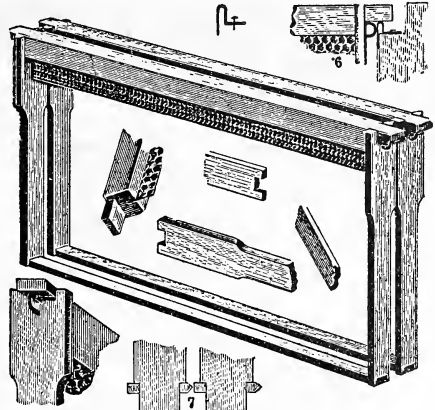
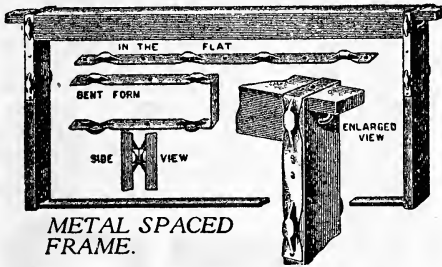
## Hoffman Brood Frames

The Hoffman Improved Foundation Fastening Frames (see cut) are the latest, most satisfactory brood frames. The top bar is made with a beveled strip, which holds the foundation absolutely in place, perfectly straight and exactly in center of top bar. Any one can put foundation in these new frames very rapidly

### PRICE OF HOFFMAN FRAMES

	Wt. per 10	Per 10	Per 100
Improved F.F. Western	4½ lbs.	\$0.75	\$7.00
Half Hoffman Western	2½ lbs.	.75	7.00

The Half Hoffman Frame is used in the ideal super.



Hoffman Frames  
Showing Foundation Starter

## New Metal Spaced Frame

Recommended where there is much propolis. Spacing is accurate and frames handle easily.

Price per 10, \$1.90-100, \$15.00. Wt. per 10, 5 lbs. Metal Spacers Only—Per 100 Wt. 1¾ lbs. \$1.90

## SECTION HONEY BOXES

Our No. 1 Sections are made of the choicest white basswood lumber, and are all perfect in finish and free from defects. They are not all snow-white, but vary from that to a light cream color. Choice honey shows off to best advantage in a section not too white, as it is the honey rather than the wood that the consumer looks at. Wt., 6¼ lbs. per 100

Styles Nos. 1, 3 and 4 cannot be supplied.

Portland Seed Co.'s No. 1 per 100 \$2.20—per 500 \$10.25—per 1000 \$20.00.

Portland Seed Co.'s No. 2 per 100 \$2.15—per 500 \$10.00—per 1000 \$19.50.

Order any of the following sizes wanted.

4¼x4¼x1 7⁄8, generally used and always sent unless otherwise ordered

4¼x4¼x7 to the foot; 4¼x4¼x1 15-16; 4¼x4¼x1 ¾.

The 4¼x4¼x1 ½, 3¾x5x1 ½, and 4x5x1 ¾ plain sections, having no beeway, are 25c per 1000 less.

### Different Styles of Sections.



Style 1 Beeway, commonly called closed-top.



Style 2 Beeway, open top and bottom. This style is sent when no other is specified.



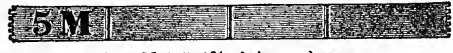
Style 3 Beeway, open three sides.



Style 4 Beeway, open on all four sides.



Style 5 Plain, no beeways. Used with fences.



Style 5 M, 4x5x1 ¾ plain, no beeways.

For large quantities, other sizes, etc., write for special prices. If ordered by mail, allow 1c each for postage. Sample section, by mail, 1c each.

## WE PAY HIGHEST MARKET PRICE FOR BEESWAX

SEND US ALL YOU CAN GET

## Section Holders

Six section holders with separators, one follower and springs are put in each super, and each section holder holds four one-pound honey boxes. The bottom strip is ¾-inch thick and is cut out to fit insets of sections.

Western, 1 7⁄8x18 1⁄8 inches, slotted. Weight 20 lbs. per 100. Each 5c—per 100 \$4.50

Blacks—1 7⁄8 Western. Per 100 \$1.25

Ideal—bottoms. Each 3c—per 100 \$1.95

Danznebaker, reversible. Weight 24 lbs. per 100. Cannot be supplied.

Bottoms only—1 7⁄8 in. wide, slotted. Western. Wt. 11 lbs. per 100. Each 3c—per 100 \$2.50

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG





## COMB FOUNDATION



Full Sheet, Triangular and Quarter Sheet Method of Using Foundation

There is little question but that it pays to use foundation in full sheets in the brood frames and sections, especially the latter. If you think you cannot afford so much you should at least have a strip for a starter. It will help much more than it costs you, in getting straight, even combs. You can use a starter any width from one inch up.

Our foundation is made by the "Weed process," and is a very superior article. Packed in 1, 2, 3 and 5-lb. carboard boxes in a case.

### PRICES OF COMB FOUNDATION

When you order, be sure to tell what grade you want, and give price.

GRADE	Size of Sheets	No. per lb.	In Lots of 1 lb.	10 lbs.
Medium Brood....	7 $\frac{3}{4}$ x16 $\frac{7}{8}$	7	\$0.85	\$0.83
Extra Light Brood..	7 $\frac{3}{4}$ x16 $\frac{7}{8}$	9	.90	.88
Light Section.....	3 $\frac{7}{8}$ x15 $\frac{1}{2}$	28	.90	.88
Extra Light Sect'n..	3 $\frac{7}{8}$ x15 $\frac{1}{2}$	30	.95	.93

Write for lowest market prices on larger orders

## SEPARATORS

One separator should always be placed between each two section holders so that the bees will build the honey comb even in each section (see illustration of supers).

**Western (Veneer) 8 lbs per C; per 100 95c**

**Fence Separators, P. or I., weight 13 lbs. per 100. Per 10 70c, per 100 \$6.50**

**Fence Separators, Danz., M., weight 16 lbs. per 100. Per 10 70c, per 100 \$6.50**

## HONEY SHIPPING CASES

These have a glass front, and corrugated, non-dripping packing, which protects against breakage, and are designed for marketing honey. If you expect to get the best market price, you must put your honey up in nice cases.

### PRICE LIST OF SHIPPING CASES

	Non-drip	Nailed Each
24-lb. Eastern.....		.55
24-lb. for 3 $\frac{5}{8}$ x5 Sections—Ideal.....		.55

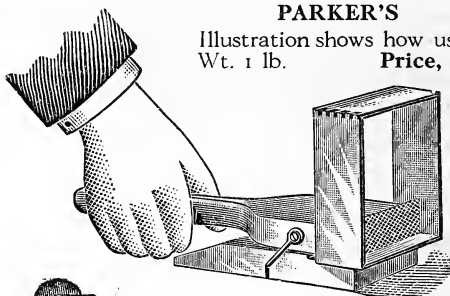
## SECTION PRESSES

**HUBBARD**—This is one of the best machines for putting together one-piece sections. The ends are forced together by means of a toggle joint. It is made adjustable for sections of different sizes. Weight 25 lbs. Price \$3.40

## FOUNDATION FASTENERS

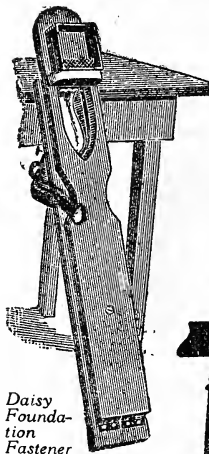
### PARKER'S

Illustration shows how used.  
Wt. 1 lb. Price, 50c

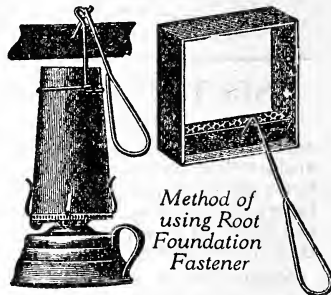


### DAISY FOUNDATION FASTENER

This is one of the best for putting starters into sections. Very simple. Easily operated. **Without lamp, Wt. 5 $\frac{1}{2}$  lbs., \$1.50; with lamp, Wt. 6 $\frac{1}{2}$  lbs., \$2.00.** Owing to danger of breakage no chimney is sent with lamp.



Daisy Foundation Fastener



Root's Foundation Fastener

Method of using Root Foundation Fastener

### ROOT'S FOUNDATION FASTENER

Complete with Lamp, weight 8 oz.  
PRICE, 95c; without lamp, 55c



### VAN DEUSEN WAX TUBE FASTENER

For fastening the foundation sheets to thin top-bars there is nothing better than the Van Deussen Wax-Tube. It is simply a tube half an inch in diameter, six inches long and tapering. This is filled with hot wax, and the point is then slowly drawn along the edge of the foundation in contact with the top-bar, leaving a fine stream of hot wax to cement it.

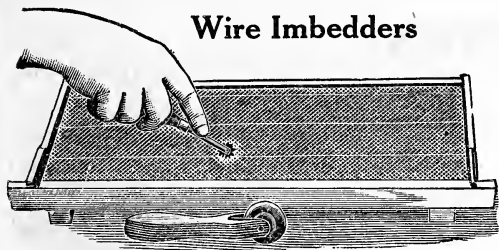
Price, 35c each; by mail, 40c

### ELECTRIC WIRE IMBEDDER

A practical device that imbeds the wire by heating it electrically, the wire melting its way into the center of the wax foundation, only requires two common dry cells, simple and inexpensive.

PRICE, without batteries, \$1.50

## Wire Imbedders



This cut shows the Spur Imbedder at work.

### SPUR WIRE IMBEDDER

This is like a tracing wheel, with the teeth set to firmly imbed the wire and not injure the comb.

Price, by mail, 45c

## No. 30 Tinned Wire



$\frac{3}{4}$ -ounce spools.	Each 10c
$\frac{1}{4}$ -pound spools.	Each 25c
$\frac{1}{2}$ -pound spools.	Each 40c
1-pound spools.	Each 60c
5-pound coils.	Each \$2.50

Add postage if ordered mailed.

## T-TINS AND RABBETS

	Per 10	Per 100
Tin Rabbets, 12-inch.....	25c	\$2.40
14-inch.....	30c	2.50
T-Tins, 13-inch.....	25c	2.35
15-inch.....	25c	2.45
Flat Tins, 13-inch.....	20c	1.50
15-inch.....	20c	1.55

## Van Deusen Hive Clamp



Very convenient for fastening bottom board to hives and various other uses. They come in pairs.

Without screws per pair 10c, 10 pairs 90c, add 3c per pair postage for single pairs.

## Nails for Hives

$\frac{1}{2}$ -inch wire nails for hives; per lb.....	\$0.30
$\frac{3}{8}$ -inch wire nails for hives; per lb.....	.20
$\frac{3}{4}$ -inch wire nails for hives; per lb.....	.17
1 -inch wire nails for hives; per lb.....	.15
1 $\frac{1}{8}$ -inch wire nails for hives; per lb.....	.15
1 $\frac{1}{2}$ -inch wire nails for hives; per lb.....	.15
2 $\frac{1}{4}$ -inch wire nails for hives; per lb.....	.15

## Bee Veils

### GLOBE BEE VEIL

No trouble to put on or take off. Protection against mosquitoes, flies, bees, gnats, etc. The veil weighs only five ounces.

Price \$1.65

### ALEXANDER

Made of fine Bronze Wire Cloth. Stands clear of the face; has muslin top and bottom. Weight 1 lb.

Price \$1.85



### HAT VEILS

These veils have a rubber band around the top, so as to fit the hat snugly. The lower edge is bound to prevent fraying. The kinds of material are given below.



### Price List (Postpaid)

No. 1 Veil, made entirely of silk tulle.....	\$1.60
No. 2 Veil, cotton tulle, with silk tulle face..	1.40
No. 3 Veil, cotton tulle throughout.....	1.20

## Bee Keepers' Gloves

Rubber or canvas gloves for the protection of the hands and wrists are almost indispensable in handling bees especially for beginners.

### RUBBER GLOVES

Ladies. Sizes 7, 8, 9. Price \$2.50—by mail \$2.60

Men's. Sizes 10, 11, 12. Price \$2.50—by mail \$2.60

Men's Half Long. Sizes 13, 14, 15. Price \$2.75—by mail \$2.85

CANVAS—Long Sleeve, Oiled.

Price \$1.75—postpaid \$1.85

*Note.*—To insure getting proper size, mark outline of hand very carefully on sheet of paper. If you order by number, order two sizes larger than you require in kid.

## Miscellaneous Hive Parts

DIVISION BOARDS. Wt. 5 oz. per 10. Each 15c—10, \$1.25

FOLLOWERS Each 5c—10, 50c

TIGHTENING SPRINGS 10 for 15c; 100, \$1.00



### ROOT NICKED STEEL HIVE TOOL

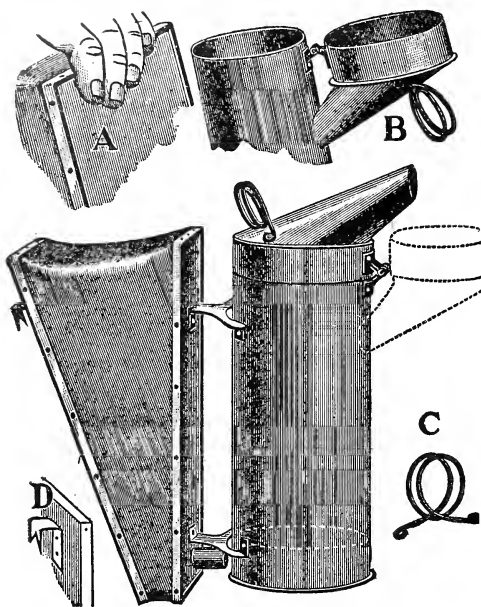
Made of spring steel; will stand any strain as a pry or scraper; is the best tool made. Wt. 4 oz.

Price, each, 75c

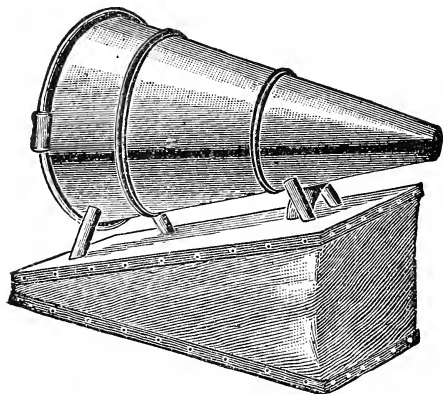


## Smokers

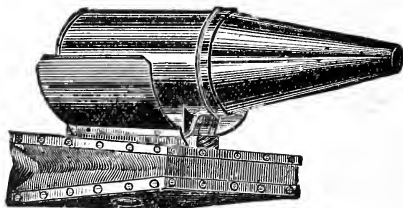
Every owner of a hive of bees should have a smoker. A few blasts of smoke will quiet the bees so that they can be handled with safety.



*Root's (Improved Corneil)*



*Clark's*



*Bingham Smoker*

### ROOT'S (Improved Corneil)

Recent improvements on the new Root Smokers make them as nearly perfect as a smoker can be. As the flexible hinged top goes down it shoves the creosote out of the way, making it self-cleansing where it fits over the cup.

Another new feature is the abandonment of the valve, a device that is liable to get out of order or clog up with creosote. This, in connection with the metallic binding by which the bellows board cannot warp, the curved snout directing the smoke at an angle most convenient for use, the wire handle that is always cool, the new steel-stamped leg, ribbed and braced, the anti-sparking blast tube, the lock nut and bolt for securing the smoker to bellows board, make the entire smoker as perfect an implement as can be devised. We guarantee this smoker to burn any fuel, including sound hard wood, corn cobs, rotten wood, planer shavings, peat, old rags and greasy waste; but our preference is decidedly in favor of the last mentioned, because it makes a dense, pungent smoke, one that lasts longer than any fuel we have ever tried.

We are prepared to furnish these smokers either in monel metal or heavy tin. We make three sizes of this smoker, viz., a Jumbo, with 4-inch stove; Standard, with 3 1/4-inch stove; and a Junior, with 2 1/2-inch stove. The latter has no hinge.

### What Size of Smoker to Select

If one has only a few colonies, and does not expect to have many, he can get along with the Junior. For ten or twenty colonies, and possibly more, he should have nothing smaller than the Standard. If he has fifty or more colonies, by all means have the Jumbo size.

Each Standard 3 1/4-inch, weight 2 lbs. . . . . **1.50**

### CLARK'S COLD BLAST

Probably the most popular smoker in use today is the cold blast, although many are now changing to the hot blast, claiming that they are more effective. The Clark is the best low-priced smoker. Weight 1 1/4 lbs. **Price \$1.10**

### BINGHAM

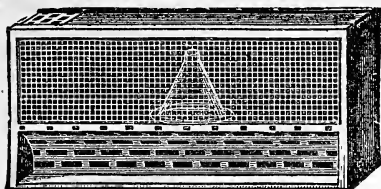
This is strong and well made, does not clog up, and burns any fuel. It has recently been improved by the addition of a curved snout. The four larger sizes have wide shields; the two smaller have narrow shields. All have wire handle to cone, and inverted bellows. The "Conqueror" and "Doctor" cannot be excelled for use in large apiaries.

Each  
Bingham Little Wonder, weight 1 lb. . . . . **1.10**  
Bingham Doctor, weight 1 1/2 lbs. . . . . **1.50**  
Bingham Engine, weight 1 1/2 lbs. . . . . **1.85**

**FRUIT AND ORNAMENTAL TREES, BERRY BUSHES AND PLANTS, ROSES FLOWERING BULBS**—New and improved varieties for Northwestern growers fully described in our illustrated Nursery Catalogue. Mailed Free on Request.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

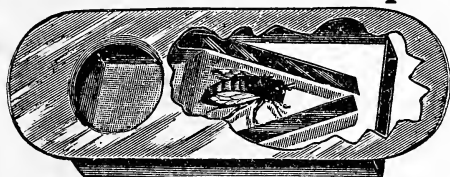
## Alley's Combined Drone and Queen Trap



This is placed before the entrance to the hive, and is designed automatically to catch and cage the drones in an apartment by themselves. They can then be carried to another apiary, or be destroyed, as circumstances require. The trap will also catch the queen when a swarm issues, and hold her confined until the apiarist can give her his attention. As she can not get away, the bees will, in all likelihood, return into the hive. An excellent non-swarming device. Directions for use are attached to each trap. Wt. 1 lb.

Each, 8 Frame 85c. 10 Frame 90c  
**IMPROVED WIRE FRONT.** Wt. 1 1/4 lb.  
Each, 8 Frame 85c. 10 Frame 95c

## Porter Bee Escape



No well regulated apiary can afford to be without bee escapes any more than it can afford to be without a bee smoker. The Porter is very much the best. In taking off the honey it is the greatest labor saver that has been introduced in late years. It avoids "breaking the back" in shaking heavy supers to get the bees out; does away with the cruelty of smoking the bees. There is no need of receiving a single sting, and robbers stand no show whatever. All that is necessary is to slip an escape board between the super and brood nest or main part of the hive (say toward night), on each of the colonies from which you desire to remove the honey.

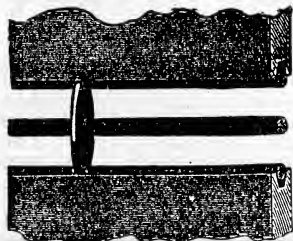
**PRICE, as per illustration 25c, postpaid.**

**Price, mounted on board, (Wt. 2 1/4 lbs.) 75c.**

## Porter's Escape for Honey Houses

The escape shown above is designed to be used in the hive, but this one is especially made for use on doors and windows of workshops, extracting rooms and other places where bees get in, and it is desirable to get them out without the possibility of their returning. No extracting room will be complete without one or more of them. Wt. 2 oz.

**Price, 25c postpaid**

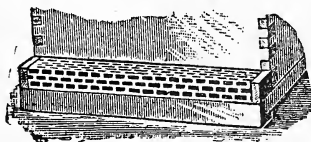


**NEW  
STYLE  
WOOD AND  
WIRE  
HONEY  
BOARD**

No sharp edges  
for the bees to  
pass over.

## Bee Entrance Guards

ROOT'S OR TINKER'S.

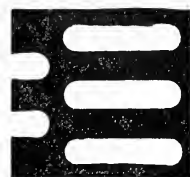


These are to admit workers, and to exclude drones. After the drones are all out, fix the guards over the entrance, and at night the drones can be destroyed. Wt. 1/4 lb.

**Price, Zinc Front 30c**

**IMPROVED WIRE FRONT.** Wt. 6 oz.  
**Price 8 Frame 30c—10 Frame 35c**

## Perforated Zinc



**Root-Tinker  
Perforated Zinc.**

Perforations, 17-100ths inch wide.

This is used between the upper and lower stories, to prevent the queen going up above. It is also used in making entrance guards, queen and drone traps, etc.

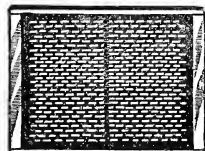
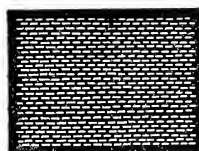
Zinc Sheets, Root's perforated solid, 32x96.

Wt. 6 lbs. **Price, each, \$5.50**

Zinc, less than a sheet.

**Per square foot, Wt. 4 1/2 oz. 50c.**

## Honey Boards



**ZINC HONEY BOARDS**

**No. 1 or 11.**

**No. 12 or 13.**

**ROOT'S OR TINKER'S.**

Honey boards are used to confine the queen in the brood chamber, and are very generally used in the production of extracted honey. Nos. 1 and 11 are of unbound zinc, and are placed directly on top of the frames. This allows the bees to pass through the holes directly over the spaces between the frames. Nos. 12 and 13 are wood-bound, with a bee space one side, and reach to the outside of the hive. When placed on the dovetailed or other similar hives there is a bee space above and below the zinc.

**PRICES.**

No. 11. 8-frame, unbound, 12x19 1/2 in. 55c

No. 1. 10-frame, unbound, 14x19 1/4 in. 60c

No. 13. 8-frame, wood-bound, 13 7/8 x 20 in. 70c

No. 12. 10-frame, wood-bound, 16x20 in. 75c

No. 8. 8-frame, wood and wire, 13 7/8 x 20 in. \$1.00

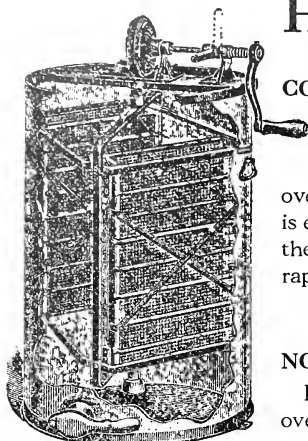
No. 7. 10-frame, wood and wire, 16x20 in. 1.10

8-frame, 7-wire Each 1.15

10-frame, 7-wire Each 1.25



## Honey Extractors



Two-frame  
Reversible Cowan.

### COWAN TWO-FRAME EXTRACTOR

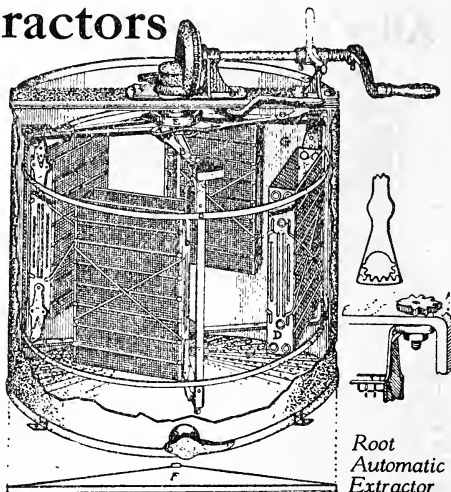
The Cowan Extractor now takes the lead over all others in use, as it is easily reversed. Always the best machine when rapid work is required.

**Price \$47.00**

### NOVICE TWO-FRAME

For any size frame not over 9½ by 18½ inches; not reversible; weight 45 lbs.

**Price \$35.00**



Root  
Automatic  
Extractor

The NEW ROOT FOUR-FRAME AUTOMATIC EXTRACTORS are fitted with a brake, and a slight pressure, when it comes time to reverse, will turn the pockets, the other side to when they can be speeded up without having to stop the extractor. They reverse instantly without jar or injury. This is a great advantage and an exclusive feature. Has ball bearing and slip gear device. Root Extractors are built for hard service and are the best made. Weight 210 lbs.

**Price each \$125.00**

### DADANT UNCAPPING CAN

This is made up of two 20-inch galvanized cans fitted together, the upper can for the cappings, the lower for the drippings of honey that percolates through the screen that supports the cappings. No heat is used. Weight, packed for shipment, 56 lbs.

**Price \$14.50**

### HATCH WAX PRESS

The most practical and satisfactory wax press, every part being thoroughly tested to withstand the enormous strain placed upon a machine of this type. The quality of the wax is superior to that secured by other methods, and the economy and simplicity of operation makes the Hatch the best press for the average bee keeper.

**Price each \$20.00**

## Books for Bee Keepers

Every bee keeper, and especially if he has not had long experience, should have at least one good text-book on the subject. The following are the very best works on bee keeping.

### New Edition ABC and XYZ of Bee Culture

The greatest authorities of the present day have contributed to make this new edition the most complete, comprehensive and valuable guide to the beginner and the veteran alike. Entirely re-written and increased to 850 pages, 7½x9½ inches. No other reference is necessary if you own the new ABC and XYZ of Bee Culture.

**Price, postpaid** ..... **\$3.15**

By freight or express ..... **3.00**

**ADVANCED BEE CULTURE**, Hutchinson, 205 pp., 6x9½ in. C **\$1.25**

**HOW TO PRODUCE EXTRACTED HONEY**, Root, 29 pp., 4x6 in. .... P **.20**

**MODERN QUEEN REARING**, Root, 33 pages, 4x6 in. .... P **.20**

**A THOUSAND ANSWERS TO BEE-KEEPING QUESTIONS**, Miller, 276 pages, 5½x8 in. .... **1.35**

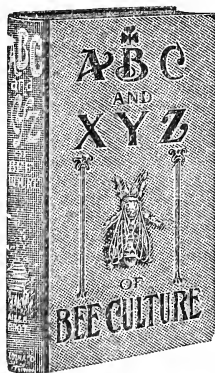
**FIRST LESSONS IN BEE KEEPING**—Dadant ..... **1.00**

**PRODUCTIVE BEE KEEPING**—Pellett ..... **2.50**

**PRACTICAL QUEEN REARING**—Pellett ..... **1.00**

**GLEANINGS IN BEE CULTURE**—Monthly, per year ..... **1.00**

**AMERICAN BEE JOURNAL**—Monthly, per year ..... **1.50**



**SEND US YOUR BEESWAX. WE WILL TAKE IT IN TRADE, OR PAY YOU CASH**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**





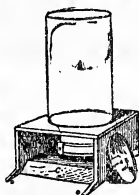
## Bee Feeders



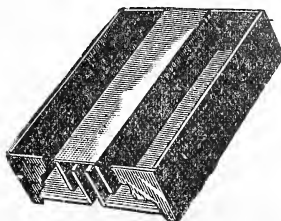
**ALEXANDER FEEDER.**

This is comparatively a new feeder. The bottom board slides forward, and the feeder is placed at the back and under the hive. The bees go into the feeder from the brood chamber. This feeder has many good features. Wt. 1  $\frac{1}{4}$  lbs.

**Price, 50c each**



**Boardman.**



**Miller's Feeder.**

**MILLER'S FEEDER.**

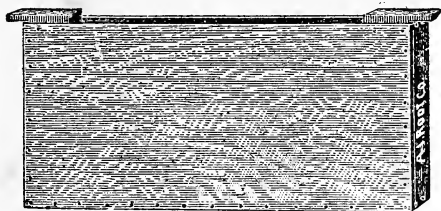
A superior feeder for feeding colonies their winter stores. It sets on the hive in the same space occupied by a T-super. It measures 12x18  $\frac{1}{2}$ x4  $\frac{1}{4}$  inches, and will hold about 25 pounds of syrup. When set on the hive it effectually shuts all bees beneath it, and they enter it from below. The syrup is poured in on either or both sides. Wt. 5 lbs

**Nailed up complete, each, \$1.00; in flat, 90c**

**BOARDMAN'S FEEDER.**

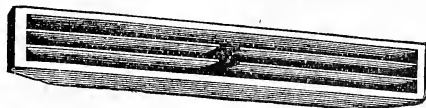
(See cut). Wt.  $\frac{1}{2}$  lb.

**Price, without jar, 35c**



**DIVISION BOARD FEEDER.**

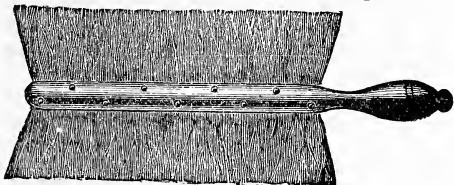
Made to hang in brood chambers, to one side or between the frames. Wt. 1  $\frac{1}{4}$  lbs. **Price, 55c**



**SIMPLICITY FEEDER.** Wt. 6 oz.

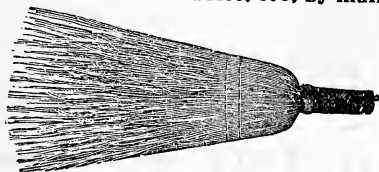
**Price, 20c**

## Bee Brushes



**THE DIXIE BEE BRUSH.**

A double brush with a strong wood handle, put together with brass nails to avoid rust. The strands are soft and pliable to give an easy, gentle sweep. The brush is long enough to reach clear across an ordinary brood frame. Wt. 5 oz. **Price, 30c; by mail 35c**



**COGSHALL'S.**

For the wholesale brushing of bees off combs when extracting, we do not hesitate to pronounce this the best. Wt. 4 oz. **Price, 35c; by mail 40c**



**HANDY BEE BRUSH.**

Made of horse hair. One of the very best, most lasting brushes. Wt. 7 oz. **Price, 40c; by mail 45c**

## Honey Knives



**BINGHAM.**

**Price \$1.80; by mail \$1.85**

**BINGHAM, steam heated, with tubing.**

**Price \$5.00**

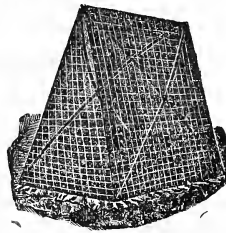
## HELP YOUR BEES

and increase your profits. Grow crops that are honey producers.

**WE CAN TELL YOU WHAT IS BEST**

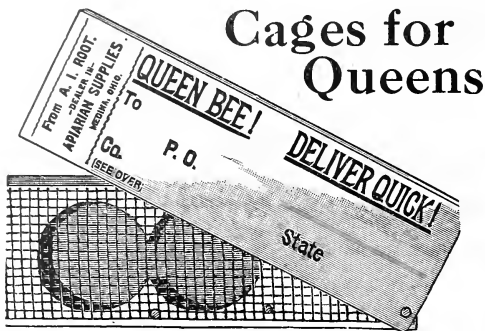
## Tent for Setting Over a Hive

These are for the purpose of enabling us to go on with such work as introducing queens, transferring, etc., when robbers get so troublesome that we could not go on with the work otherwise. After the middle of July we are obliged to use them almost constantly in our apiaries, and we could not possibly get along without them. They are made up so as to fold up and put away, or for transportation, and weigh only about 6 pounds all complete. The dimensions of the tent are 5 feet long, 5 feet wide and 5 feet high.



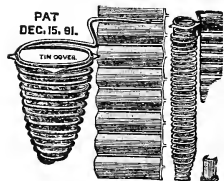
**Price, \$6.25; weight, 6 lbs.**



**BENTON CAGE**

This is undoubtedly the best cage for mailing, and is adapted likewise for introducing. Directions for introducing are printed on the cover.

Price, no candy, by mail, 10c



## West Queen-Cell Protector

Complete directions for use accompany each lot of cages.

Price each, by mail 15c

**SPIRAL CAGES**

We also furnish spiral cages to be slipped over these cell protectors, as shown in the cut at the right. They are designed to hold the virgin queen, after she hatches, till she can be disposed of.

Price each 15c, 10 by mail \$1.40

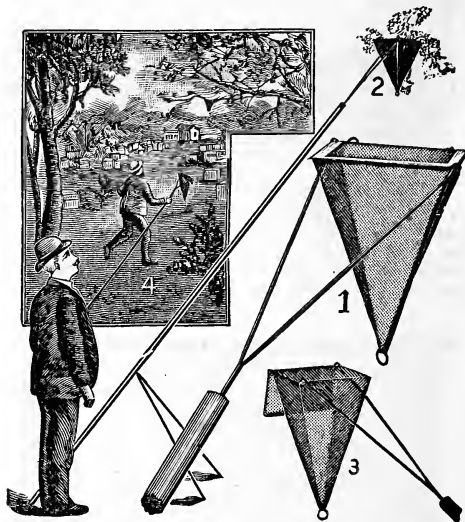
**DOOLITTLE CELL PROTECTORS**

We can still supply the wire Doolittle Queen-Cell Protectors.

Price each, by mail 10c

**Root's Queen Rearing Outfit**

A complete set of tools and materials, with instructions, enabling one with little experience to rear his own queens at small expense. Price \$6.50

**Swarming Device****MANUM'S SWARMING DEVICE**

A most complete swarming device. To hive a swarm, place the open basket under a cluster of bees, so that when they are shaken from their position they will fall into the basket. Close the lid, and as most of the bees will be inside, they can be carried and emptied into the hive. The swarmer is light and conveniently carried.

Price, wire basket, without pole, bail only, \$2.50. Weight  $3\frac{1}{2}$  lbs.

**Queen Bees**

We are in a position to furnish untested Italian queens after the middle of April, weather conditions being favorable. It takes about seven days to get these in from the apiary, so do not expect queens by return mail. **Untested Queen.** May, June, July, August, September.

Price \$2.00

**Tested Queens** cannot be furnished before May.

Price each \$2.50

**BEGINNERS' OUTFIT**

To the inexperienced we recommend the following complete equipment—all that is necessary except the bees—these you can generally purchase near your home and save the express charges. It is best to have them examined by an experienced man to see that the colony is in a healthy condition.

**ITALIAN BEES** (the leather colored), are to be preferred but any strong colony will do for we can supply pure bred Italian Queens that will soon Italianize the colony as the worker bees live but a short time.

- 1 Copy A B C and X Y Z Bee Culture.
- 1 Fig. 1-8 Western Cedar Hive.
- 1 Clark's Cold Blast Smoker.
- 1 Bee Veil No. 2.
- 1 Parker Foundation Fastener.
- 1 Porter Bee Escape, Mounted.

1 Pair Long Canvas Gloves.

**"GLEANINGS IN BEE CULTURE"** — The best bee magazine—a year's subscription.

**PRICE Without Bees \$13.50**

F. O. B. Portland

## BEEKEEPING FOR AMATEURS

In the following remarks on the opportunities for pleasure and profit in beekeeping, we will be unable, on account of lack of space, to do more than touch on some of the more important points. There is probably no subject of a similar nature concerning which more has been written or to which more men of the highest practical ability and experience have devoted their efforts, and while commercial beekeeping as a main business is one which gives the highest returns on the capital invested, it is also a fascinating side-line which may be engaged in almost anywhere in the West by men or women, old or young, with the most gratifying results. It is peculiarly adapted to the needs of people of sedentary habits, lawyers, doctors, ministers, school teachers and college professors, or of that great host of young and middle aged toilers whose days are spent indoors, in store, office or shop, who need something of more than ordinary attractiveness to induce them to spend their spare time in the open air. Compared with poultry raising, gardening or floriculture, the time required to care for bees successfully and profitably is considerably less while the investment in land, stock and implements is not nearly as large. In almost any locality, even in the cities, sufficient honey may be produced to not only supply the family table with an abundance of this purest of sweets, but to make a considerable addition to the family income.

To the beginner in beekeeping we may say that success is practically certain if the right start is made and intelligently followed up, but if the start is carelessly made, without study of the details involved, success can only be achieved after much disappointment and unnecessary trouble. Beekeeping is easy, nothing hard or mysterious about it and any person with good common sense and a fair amount of patience may be successful. On the other hand, no specialized branch of industry requires more skill than honey production. The whole business is one of details and no man or woman who cannot, or will not, give close attention to the necessary details should attempt to keep bees. It often happens that the studious and careful beekeeper will secure a good crop of honey in a season when his neighbor, with the same kind of bees and equipment, makes a complete failure. The two things absolutely necessary to success are: First, printed literature from which the first steps may be readily learned, and, second, good equipment.

### LITERATURE

We cannot too strongly emphasize the necessity for a first class book of instruction, as in beekeeping, more perhaps than in any other line of business, the beginner must know exactly what to do at exactly the right time, as failure in any of the essential details, through lack of knowledge, may turn a promising season into one of disappointment and loss. While books on the subject are not cheap, their actual value to the beginner cannot be computed in dollars and cents. At present prices a super of honey from an eight-frame hive is worth \$7.20. If the in-

struction contained in any bee-book on the market today enables the beginner to produce one additional super of honey it has not only paid for itself but has returned more than 100% profit on the investment.

To round out the instruction contained in a good textbook and to keep the beginner in touch with the new discoveries and new ideas which are being presented to the beekeeping fraternity from day to day, a periodical made up of timely articles from the most successful beekeepers in the country should be subscribed for and carefully read. Such periodicals are represented by *Gleanings in Bee Culture* and *The American Bee Journal*, both published monthly. Beginning with February of each year *Gleanings* publishes a series of lessons prepared especially for beginners, carefully explaining every step from the time the bees take their first Spring flight until they are snugly tucked away in Winter quarters.

### EQUIPMENT

To a very great extent success in beekeeping depends upon the supplies and equipment used. While it is possible for bees to live in home-made hives, or even in packing boxes or nail kegs, it is not possible to make a success with such misfit appliances. The beekeeper may be a very careful and patient individual, able to get along well with the bees, but if he has to contend with hive furnishings which do not fit, he is almost certain to spend as little time as possible in their manipulation and gradually he will become discouraged and eventually drop the work entirely.

The beehives of today, as well as all other tools and implements of the industry, are complete and finished products in every detail and so made that every piece fits the place for which it was designed, meeting the requirements of the beekeeper as well as with the approval of the bees themselves.

While there are a number of different styles of beehives on the market and a considerable divergence of opinion among beekeepers as to which is the best, the beginner will make no mistake in selecting the form of hive most generally in use, the supplies for which may be obtained from any supply house within shipping distance. There is little question that the dovetailed hive, containing either eight or ten brood frames, is the one best adapted to the uses of the practical honey producer, it being so constructed that all the interior furnishings are movable and interchangeable, making it possible to take from one hive frames of honey or brood and transfer them to any other hive with the comfortable certainty that they will fit.

The standard dovetailed hive consists of several parts. The main or lower part is called the brood-chamber and it is here that the young bees are reared and the honey stored for the use of the colony during the Winter months. Above the brood-chamber is the second story, or super, in which the bees store the honey which is gathered in excess of the immediate needs of the colony and which is usually removed by the beekeeper



for his own use or for sale. Beneath the brood-chamber is a bottom-board which provides an entrance way into the hive, and below this is a hive stand, usually combined with a slanting alighting board. This board is a necessity which should never be overlooked. During the honey flow the bees come in from the field with heavy loads and many of them fall to the ground from weariness as they near the hive. Unable to again take wing with their burden they are lost unless there is some means of reaching the entrance by crawling. The entrance to the hive should not be more than 8 or 10 inches above the ground and the alighting board should bridge that distance.

Above the super is a waterproof cover which may be easily removed when inspection of the colony is necessary or for the purpose of removing the surplus honey.

### INTERIOR FURNISHINGS

The brood-chamber is equipped with movable racks called Hoffman frames, in which the bees build the combs to contain the brood and winter stores. These frames are suspended from metal rabbets at the ends of the hive and are so spaced, automatically, that there is ample bee-space between them when filled with comb. Being hung loose in the hive, these frames may be removed or rearranged at will.

The upper story, or super, is furnished either with small wooden boxes called sections, or with frames of the same length as those in the brood chamber but of about one-half the depth. These are known as half-Hoffmans and are used for the production of extracted honey or of the "chunk" honey which is popular in some parts of the country.

### THE BEES

The population of the beehive is made up of three different kinds of bees: One queen, a limited number of drones and many thousands of workers, each filling an important and indispensable place in the make-up of the colony.

The most important member of the family is the queen, as it is her function to lay all the eggs from which all workers, drones and other queens are produced, being, in fact, the one mother of the entire colony, and the loss of the queen will, unless her successor has been provided for, result in the extinction of the colony within a few weeks. The queen is usually extremely prolific, laying from 2,000 to 4,000 eggs every 24 hours, or about twice her own weight, and at the same time she consumes food of about the same weight. When the population of the hive becomes crowded in the early part of the Summer, the worker bees select one or more eggs, which in the ordinary course of hive treatment would hatch into workers, build an enlarged cell around each of them and by giving a large quantity of specially prepared food, known as royal jelly, they transform it from a potential worker into a perfect queen. It may be stated as a fact that any egg which would ordinarily produce a worker will, under the proper treatment, produce a queen.

Although she is really the hardest worker in the whole community, laying eggs ceaselessly day and night for several months, the queen usually

lives much longer than any other bee in the hive. While some queens die, apparently of old age, the second Summer, they frequently live to be two or three years old and have been known to lay fairly well even into the fourth season. They are seldom profitable after the second year. When a queen commences to fail, even though it be in her first season, she is usually killed by the worker bees and a young queen raised to take her place.

The drones are the male bees, their only use being that of mating with a young queen. They are tolerated in the colony during the mating and swarming season and usually as long as honey is coming in freely. At the close of the honey flow they are ejected from the hive by the workers and, as they are not allowed to return, they die from starvation within a few hours. The eggs which are to produce drones are deposited in cells somewhat larger than those from which workers are hatched, and no manipulation or special feeding of the drone larva can ever produce anything except drones.

The workers are imperfect females whose duty, and ambition, is to toil unceasingly for the welfare of the entire bee community. It is their task to build the combs, mix and carry to the young bees the honey and pollen necessary for their development, cap over the brood cells when the larva has reached the proper stage, go out to the fields and bring in the nectar and pollen required for the present and future needs of the colony, cap over the stores and at all times maintain a vigilant guard at the entrance, ready to repel all invaders even at the cost of their own lives. So constant and unrelenting is the labor of the workers that their lives are cut short by the wearing out of their wings. During the height of the season it is probable that workers do not live longer than six weeks. At the close of a long day's work during the honey flow numbers of ragged-winged workers may be seen crawling slowly into the hive or moving aimlessly about on the ground, apparently knowing that they are of no further use and only anxious to get away from the hive before they die. It has been estimated that the loss of workers from a strong colony may be as high as 2,000 each day. They do not all die of old age, as many of them are caught by birds or predatory insects or chilled by a sudden fall of temperature or a shower before they can reach the shelter of the hive.

### GETTING THE BEES

It is usually best to buy the bees within easy reach of the place where they are to be kept, if possible. The expense of shipping by express, with its attendant risk, is avoided, and the purchaser can usually avail himself of the privilege of making a personal examination before closing the bargain. As a rule, it is unnecessary to pay much attention to the kind of bees, whether blacks, hybrids or Italians, providing the colony is a strong one. If the stock is not just the kind you want, or the bees are found to be a little quick tempered, a good Italian queen may be bought from a reliable breeder, the old queen searched out and killed and the new queen introduced. Within a few weeks all the bees orig-



inally in the colony will have disappeared leaving the hive filled with the progeny of the new queen.

If the bees to be bought are in boxes, or home-made hives, the price should not be high, as it will be necessary to incur the additional expense of a new hive, to say nothing of the labor of transferring. If the bees are in a good modern hive, a much higher price may be paid as they are in readiness for real business as soon as the honey flow starts. Particular care should be taken, however, to see that the frames and combs in the brood chamber are in good condition. It sometimes happens that, due to carelessness on the part of the original owner, the combs have been built across the frames, practically cementing them all together into a solid block. Such colonies will have to be transferred, should be considered as being in box hives and the price reduced accordingly. The would-be purchaser should see that every frame and comb is in such condition that it may be readily removed from the hive when necessary.

### MOVING BEES

If the bees are to be moved a distance of several miles, there is usually little danger of loss from the field bees returning to the former location, but if the distance is not more than two or three miles, it will be necessary to take steps to cause the bees to recognize the fact that they have been moved and to mark the new location. This is usually done by putting the hive in a dark cellar for two or three days, being careful that windows are covered to exclude the light, and when placed upon the new stand a board, or some other obstruction placed in front of the entrance at a distance of a few inches. This will cause the bees to make careful note of the changed appearance of their home and the number which will return to the old stand will not be large.

### TRANSFERRING

In case the bees have been received in box or home-made hives, one of the first tasks of the new owner should be to get them into a modern hive. During the period of fruit bloom is the best time to buy and move bees, also to transfer them as they will then have the benefit of the Summer honey flow. If done in the Autumn, there is danger that the bees will not be properly prepared for Winter and will be lost before Spring. If the transferring is done before the honey flow, when the queen is most active, the colony may with a little assistance be made to transfer itself. If the colony is in a box, it should be turned upside down and the bottom removed. The new hive, containing drawn combs if possible, should be placed on top of the box, leaving out the bottom board in order that the bees may pass freely upward from the box into the new hive. Leave a free entrance way into the new hive but carefully close every opening into the old one through which a bee could get either in or out except through the new hive. If frames with drawn combs cannot be had, frames with full sheets of foundation should be used. Bees seem to dislike to have either brood or stores below the entrance and will usually move up into the new hive in a very short time. The hives should be

left in this position for about three weeks, or until all the brood in the old hive has had time to hatch, when the box may be taken away, the new hive placed on its bottomboard on the same stand. The combs in the old hive will be found to contain but little honey and should be melted up into wax at once. Otherwise they are likely to prove a source of future trouble.

### ANOTHER METHOD OF TRANSFER

Some beekeepers prefer to drum the bees up from the old hive into the new. When, after a few minutes drumming with sticks on the side of the hive, most of the bees, including the queen, have gone into the upper story, the new hive is placed on the stand and the old one set aside. At the end of three weeks the newly hatched bees are united with the colony in the new hive. It is probably an advantage to drum the bees up into the new hive, as a queen-excluder can be placed between the two hives and the queen prevented from going below again, thus combining the two methods.

### THE TOOLS NEEDED

Having procured the bees, moved them, transferred them and successfully located them on the proper permanent stand, it is time to consider what implements are necessary to their manipulation. As a matter of fact, most of the tools and appliances should have been provided between the time the bees were bought and the time when they were brought home, as some of them are absolutely essential to the successful performance of the work described.

Every beginner, whether possessing one colony or more, will need a good veil, gloves, a suitable hive stool and a smoker. No beginner should attempt to work with the bees without a veil. Under certain circumstances it might be possible to get along with the bees for a time without protection, but the fact that it can be done on one day is no guarantee that the same immunity would be enjoyed the next day. It does not pay to take chances and the beginner should have a good veil and should wear it at all times when around the bees until, from practical experience, he has learned when he can safely proceed without it. We have all heard of the grandfathers who worked with the bees all their lives, using neither veil nor smoker, without ever receiving a sting, but unfortunately most of them forgot to impart the secret to their descendants. The bees may be good natured and easy to handle, but there is always the possibility of an accident; a frame covered with quiet bees slips from one hand, the corner of it drops an inch or so, striking the edge of the hive with a smart rap, and instantly from one to a dozen or more startled bees will strike at the face of the operator, inflicting stings which may have the effect of causing the beginner to lose confidence in his ability to handle them and to approach the hive with extreme caution and timidity for weeks to come.

The possession and proper use of a smoker is fully as important as the use of a veil, as a little smoke, intelligently applied, will enable one to control the bees so easily that it is unwise to attempt to get along without it for a single day. Do not make the mistake of selecting the smallest



smoker because you have only one colony. The larger sizes are more desirable in every way, giving a larger volume of cool smoke and, as they hold more fuel, they will give the necessary smoke for a much longer time without being reloaded. Probably the fuel most generally used is old cotton rags torn in strips and loosely rolled into a cylindrical bundle which will drop easily into the barrel of the smoker. Rotten wood, planer shavings, excelsior, old burlap and greasy waste are also commonly used and with care will be satisfactory.

Ordinarily the beginner uses altogether too much smoke, under the impression that the bees must be completely subdued, but such practice is nothing short of useless cruelty. If the bees are a fairly good grade of Italians, one or two light puffs at the entrance to throw the guards into confusion, and another light dusting of smoke over the tops of the frames as the cover is carefully raised will frequently be all that is needed until the necessary work is finished. When the operator is ready to replace the cover, a little smoke should be used to cause the bees to retreat from the top of the hive so that none of them may be crushed. A word about the proper method of replacing the cover: Always *slide* it on from one side. If there are bees on the edge of the hive top, drive them off with a very little smoke, lay one edge of the cover on the edge of the hive and push it slowly across to the other side, smoking the bees a little on the opposite edge if there is danger of their being caught between the edge of the cover and the hive. This will also apply to the replacing of a super which has been taken off for inspection.

Right here it may be well to caution the beginner against over-manipulation of the bees. It is true that the first colony is a fascinating novelty and there is a strong temptation to open the hive and look all through it every day, but opening the hive and interfering with the work should be avoided at all times unless there is some definite reason for inspecting them. Remember that every time you open the hive during a honey flow, causing from 10,000 to 50,000 bees to stop work, you are paying for your amusement by having your honey crop reduced and a daily interruption of the work may lose for you the most of the crop. If it is the beekeeper's desire to prevent or control swarming, it is necessary to look through the hive about once in eight days during the swarming season. After they have fairly commenced storing in the supers and the probability of a swarm is slight, it is usually

unnecessary to again interfere with the contents of the brood-chamber of a healthy colony until they are inspected at the end of the season.

In regard to the use of gloves, it is entirely a matter of personal preference, practically all experienced beekeepers working with bare hands. If the beginner is timid and doubtful just what effect stings will have, they should certainly wear gloves, preferably cotton gloves with fairly long gauntlets coming up over the lower end of the coat sleeve. Have the gloves fairly large, as the more space there is between the hand and the glove the less is the likelihood of a chance sting reaching through.

While a few hives may be cared for by using a chisel or screwdriver, a nickel-steel hive tool will be found more satisfactory, as it is constructed for the greatest efficiency, and as it is not likely to be used for any other purpose it is not apt to be missing just at the time when it is needed the most. The curved end of the tool, with its sharp edge, is most useful in scraping burr-combs or propolis off the frames and edge of the hive.

There are other appliances which will be needed later in the season, or after the beginner has learned to make practical use of those already on hand, but which are not essential to a right start in the business, or amusement, of keeping bees. A study of the bee supply catalogs, and other indispensable literature, will give the beginner a clear idea as to what further materials he will need.

The beginner will also be anxious to know what to do in case his bees decide to swarm; how to care for the swarm after it has left the parent hive; how to prevent the bees from swarming if he is anxious to produce honey instead of increasing the number of colonies; how to unite colonies to the best advantage without loss; what to do in case robbing is started after the close of the honey flow; how to detect foul brood and what to do for it; how to remove his crop of honey from the hive at the end of the season and prepare it for market and how to prepare the colony for the long period of idleness during the Winter. These are all subjects of vast interest and importance but they are subjects which it is impossible to adequately cover in a work of this kind. The earnest seeker after knowledge will not begrudge the few dollars to be invested in a supply of bee literature which he will find, during the long Winter evenings, to be a source of interest and delight second only to the actual manipulation and study of the bees themselves.

## A GOOD HONEY PLANT THAT IS EASILY ESTABLISHED

**Cleome Pungens**, known in some sections as "The Rocky Mountain Bee Plant," on account of the large amount of nectar produced, is a tall spreading hardy annual of the easiest culture. Seed sown in the open and thinned, or transplanted, to three feet apart, will produce a wealth of blossoms during the latter part of the summer. In the early morning a patch of this plant will be fairly roaring with bees, the center of each blossom containing a large drop of water-white liquid making a honey of the highest quality. The plant is extremely ornamental, each branch terminating in a large cluster of white or rose colored blossoms which are produced continuously until cut down by frost. Reseeds itself.

**Price per packet 10c**

## Foul Brood.

The two diseases of the brood of bees, American foul brood and European foul brood, are causing considerable loss in some parts of the United States and are becoming very widespread. We therefore desire to call the attention of our customers to this matter so that they may be on the lookout. Many bee-keepers are losing colonies without being aware that they have foul brood in the apiary or that it exists in the neighborhood.

If either disease enters the neighborhood or gets a start in the apiary, the bee-keeper should not be discouraged and give up bee-keeping. It is only the careless bee-keeper who can not control disease. Any careful person who learns how to treat diseased colonies can continue to keep bees with profit even though disease is raging on all sides of him. This, however, requires some care.

To assist our customers in determining whether disease is present we quote the following description of American foul brood and European foul brood from Farmers' Bulletin No. 412 of the United States Department of Agriculture:

### Symptoms.

The presence of a particular disease in a colony of bees can be ascertained most reliably by a bacteriological examination, since the symptoms are somewhat variable. It is possible, however, to describe the usual manifestations of the diseases, and the usual differences, so that the bee-keeper can in most cases tell which disease is present.

### American Foul Brood.

"American foul brood is frequently called simply 'foul brood.' It usually shows itself in the larva just about the time that the larva fills the cell and after it has ceased feeding and has begun pupation. At this time it is sealed over in the comb (fig. 1, a, b, 2). The first indication of the infection is a slight brownish discoloration and the loss of the well-rounded appearance of the normal larva (fig. 1, l). At this stage the disease is not usually recognized by the bee-keeper. The larva gradually sinks down in the cell and becomes darker in color (fig. 1, h, m), and the posterior end lies against the bottom of the cell. Frequently the segmentation of the larva is clearly marked. By the time it has partially dried down and has become quite dark brown (coffee colored) the most typical characteristic of this disease manifests itself. If a match-stick or tooth-pick is inserted into the decaying mass and withdrawn, the larval remains adhere to it and are drawn out in a thread, which sometimes extends for several inches before breaking. This ropiness is the chief characteristic used by the bee-keeper in diagnosing this disease. The larva con-

istic odor and color. The tongue frequently adheres to the upper side wall and often remains there, even after the pupa has dried down to a scale. Younger unsealed larvae are sometimes affected. Usually the disease attacks only worker brood, but occasional cases are found in which queen and drone brood are diseased. It is not certain that race of bees, season, or climate has any effect on the virulence of this disease, except that in warmer climates, where the breeding season is prolonged, the rapidity of devastation is more marked.

### European Foul Brood.

"European foul brood was formerly called 'black brood' or 'New York bee disease.' The name 'black brood' was a poor one, for the color of the dead brood is rarely black or even very dark brown. European foul brood usually attacks the larva at an earlier stage of its development than American foul brood, and while it is still curled up at the base of the cell (fig. 2, r). A small percentage of larvae dies after capping, but sometimes quite young larvae are attacked (fig. 2, e, m). Sunken and perforated cappings are sometimes observed just as in American foul brood (fig. 1, c, g, j). The earliest indication of the disease is a slight yellow or gray discoloration and uneasy movement of the larva in the cell. The larva loses its

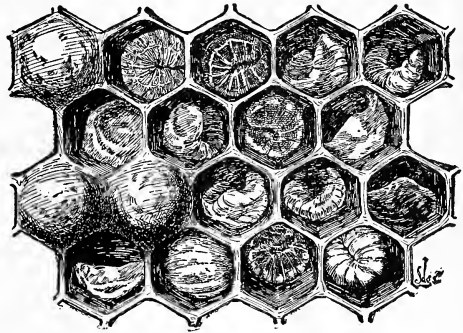


Fig. 2—European foul brood: a, j, k, normal sealed cells; b, c, d, e, g, i, l, m, p, q, larvae affected by disease; r, normal larva at age attacked by disease; f, h, n, o, dried-down larvae or scales. Three times natural size. (Original)

well-rounded, opaque appearance and becomes slightly translucent, so that the tracheae may become prominent (fig. 2, b), giving the larva a clearly segmented appearance. The larva is usually flattened against the base of the cell, but may turn so that the ends of the larva are to the rear of the cell (fig. 2, p), or may fall away from the base (fig. 2, e, g, l). Later the color changes to a decided yellow or gray, and the translucency is lost (fig. 2, q, h). The yellow color may be taken as the chief characteristic of this disease. The dead larva appears as a moist, somewhat collapsed mass, giving the appearance of being melted. When the remains have become almost dry (fig. 2, c), the tracheae sometimes become conspicuous again, the time by retaining their shape, while the rest of the body content dries around them. Finally all that is left of the larva is a grayish-brown scale against the base of the cell (fig. 2, f, h), or a shapeless mass on the lower side wall if the larva did not retain its normal position (fig. 2, n, o). Very few scales are black. The scales are not adhesive, but are easily removed, and the bees carry out a great many in their efforts to clean house.

"Decaying larvae which have died of this disease are usually not rosy as in American foul brood, but a slight ropiness is sometimes observed. There is usually little odor in European foul brood, but sometimes a sour odor is present, which reminds one of yeast fermentation. This disease attacks drone and queen larvae almost as quickly as those of the workers.

"European foul brood is more destructive during the spring and early summer than at other times, often entirely disappearing during late summer and autumn, or during a heavy honey flow. Italian bees seem to be better able to resist the ravages of this disease than any other race. The disease at times spreads with startling rapidity, and is most destructive. Where it is prevalent a considerably larger percentage of colonies is affected than is usual for American foul brood. This disease is very variable in its symptoms and other manifestations, and is often a puzzle to the bee-keeper."

In case you can not be sure from these descriptions whether disease is present send a sample of dead or discolored brood to the Department of Agriculture, Washington, D. C. in a stout wooden box. You will be notified whether an infectious disease is found without any charge.

Directions for treating disease are contained in the A B C and X Y Z of Bee Culture and in most other books on bee-keeping. The above-mentioned Farmers' Bulletin also contains descriptions of the approved methods. The bulletin may be obtained free of cost by addressing the Secretary of Agriculture, Washington, D. C. We recommend that you send for it at once. Ask for Farmers' Bulletin No. 412.

You can also find out from the Department of Agriculture whether any disease has so far been found in your county, and who your apiary inspector is. This is information which you should have.

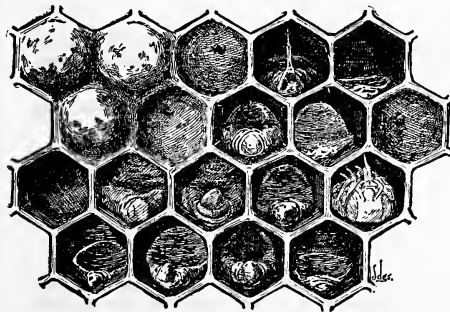


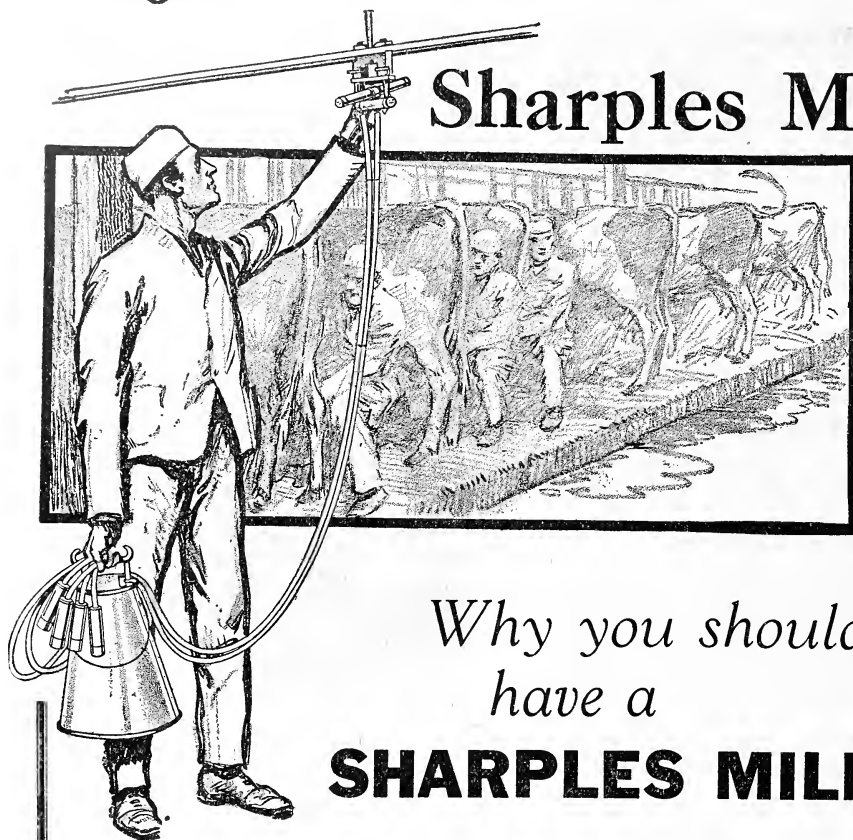
Fig. 1.—American foul brood: a, b, f, normal sealed cells; c, j, sunken cappings, showing perforations; g, sunken capping not perforated; h, i, m, n, q, r, larvae affected by disease; e, i, p, s, scales formed from dried-down larvae; d, o, pupae affected by disease. Three times natural size.

tinues to dry down and gradually loses its ropiness until it finally becomes merely a scale on the lower side wall and base of the cell (fig. 1, e, p, s). The scale formed by the dried-down larva adheres tightly to the cell, and can be removed with difficulty from the cell wall. The scales can best be observed when the comb is held with the top inclined toward the observer so that a bright light strikes the lower side wall. A very characteristic and usually penetrating odor is often noticeable in the decaying larva. This can perhaps best be likened to the odor of heated glue.

"The majority of the larvae which die of this disease are attacked after being sealed in the cells. The cappings are often entirely removed by the bees, but when they are left they usually become sunken (fig. 1, g, c, j) and frequently perforated (fig. 1, c, j). As the healthy brood emerges, the comb shows the scattered sunken cappings covering dead larvae, giving it a characteristic appearance.

"Pupae also may die of this disease, in which case they, too, dry down (fig. 1, o, d), become rosy, and have the character-





# Sharples Milker

*The only  
Milker  
with the  
Upward  
Squeeze*

## Why you should have a **SHARPLES MILKER**

No one task about a farm is quite so uninviting as *milking by hand* the long line of cows twice a day the year around. The nightmare of the dairyman has been to get and keep good, reliable, efficient milkers who would stay right on the job twice a day three hundred and sixty-five days a year.

The SHARPLES MILKER fills all requirements for an efficient milker even better than the best hand milker. With it one man can do the work of four to six men and do it better in every respect.

The Sharples Milker is absolutely reliable; is cleanly beyond any comparison, excluding all possibility of dirt or even stable air; more gentle, more regular than the human hand; also more efficient in preserving soft, pliable, healthy teats and in quickly and thoroughly drawing the milk.

The Sharples Teat Cup, having the patented "Upward Squeeze" action, makes Sharples succeed where others fail; it is the *fastest milker known*. Hence the Sharples teat cup, combining both the healthful massage and the fast milking, will, on the average, get more milk per year from the cow than is possible by any other method of milking.

### BOYS GOOD OPERATORS

Operating a Sharples Milker entails very little labor and a boy, whose minor strength would be of little value for ordinary farm work, can take a man's place at the machine and leave the hired man free for the harvesting and other heavy work. Sharples Milkers are now being run successfully in many localities by wide-awake boys.

Special illustrated Catalog and full information on request

*Write or phone us about installation*

# SHARPLES CREAM SEPARATORS

**WE** are Northwestern Agents for the splendid products of the Sharples Co. Their new "Suction Feed" Separators are the only Separators that will skim clean at any speed and this feature alone guarantees one-fifth more cream than can be saved by any other separator.

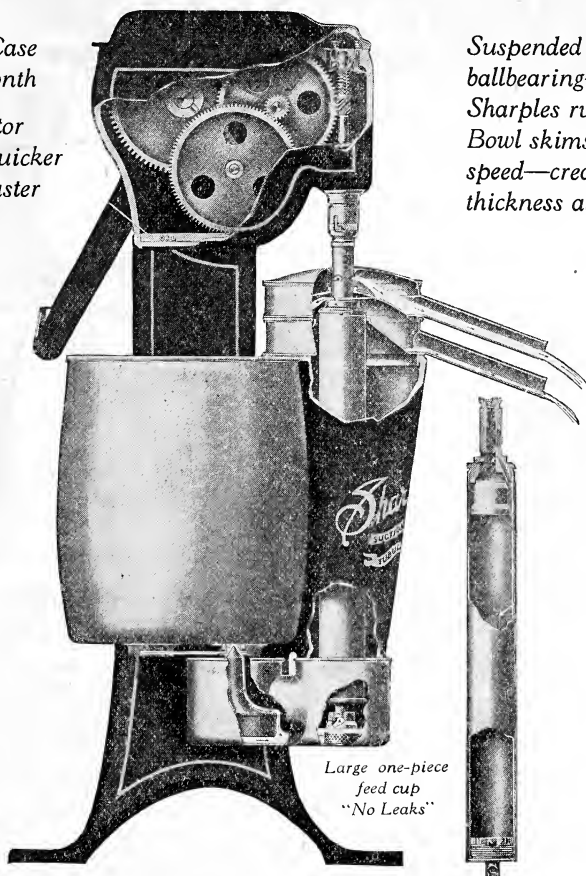
*Oil Tight Gear Case  
Oil Once a Month*

*The only Separator  
which skims quicker  
when turned faster*

*No need to watch  
your speed*

*"Suction Feed"  
sucks milk  
into Bowl  
in proportion  
to speed—result  
clean skim  
at any speed*

*The only  
Separator  
with knee low  
Supply Tank*



*Suspended single frictionless  
ballbearing—that's why the  
Sharples runs easier.  
Bowl skims clean at low  
speed—cream stays same  
thickness at any speed*

*Patented  
Tubular  
Bowl  
creates  
double  
skimming  
force.*

*The  
Simple  
Tube  
has no  
discs  
to wash*

**YOU** ARE FAMILIAR with the well-known advantages of the regular Tubular Separator. You know the simple, tube-shaped bowl, with its enormous skimming force (double that of any other machine made)—no discs, easily cleaned, almost indestructible. You know the advantages of having all the gears solidly encased and running in oil. You know how the bowl hangs from a single ballbearing, spinning naturally, instead of being supported from below.

The "New Sharples" with all these advantages needs only its new features described here of which the most important is the

## SUCTION FEED

The milk is drawn up through the bottom of the bowl by the suction force of the revolving bowl—and the greater the speed the faster the separation—*But at all speeds the New Sharples Skims Clean*—and the cream is of a uniform density—just what you set the cream screw for—and—you get *all the cream at any speed*—fast or slow—and the faster you turn the greater the capacity. *This is true of no other separator.*

**AUTOMATIC MILK SHUT OFF. SIMPLE FEED CUP**—are only a few of the new exclusive features fully explained and illustrated in the CATALOG OF THE "NEW SHARPLES."

PRICES F. O. B. PORTLAND

No. 1—Cap'ty 175 to 250 lbs. per hr. . . . \$85.00	No. 4—Cap'ty 450 to 550 lbs. per hr. . . \$125.00
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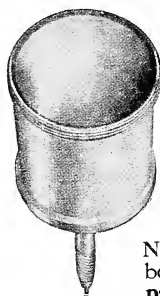


# The National CREAM SEPARATOR

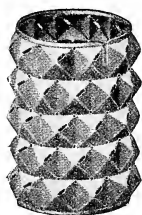
**WHEN YOU BUY A SEPARATOR** you want the one that skims the closest, summer or winter; that will handle milk from "stripper" cows; that will produce cream of any desired density.

A durable machine that will give everlasting satisfaction and service, at the minimum cost of up-keep; a separator that is mechanically perfect, having the fewest parts, the greatest capacity for its size, the quickest, cleanest and easiest running.

**The National** combines all the above and for 24 years has stood the test of time, maintaining its position against all competitors—and many of those first National Separators are in daily use after 20 years of service.



Bowl Shell



Note the simple bowl only three parts inside to wash.



Feed Tube



Bowl Top



Inner Top Cone



National  
No. 26  
Separates  
Twelve  
Gallons  
in ten  
Minutes

Ten to  
Thirty  
Cows

We offer  
the  
National  
in two  
sizes  
No. 24  
and  
No. 26

## CLEANED IN 3 MINUTES

The superiority of the "National" Cream Separator is due to the marvelous one-piece skimming device, the famous "Vortespoon." Just one cylinder shaped piece of the finest nickel

steel, extremely light in weight and large enough for any woman to put her arm through.

A child can clean it in three minutes without risk of breaking or harming it. Just wipe off with a wet rag inside and out, and rinse in hot water and the job is done.

**Capacity**—The National is not over-rated but will make perfect separation of the amount of milk claimed under ordinary conditions and have ample reserve capacity. The separator that has to be crowded to handle its advertised capacity will not skim perfectly.

**It should be especially noted** that no mechanical contrivances are required between the "Vortespoon" and the feed tube; the globules of butter fat are therefore allowed to remain in a whole condition, the highest grade from which the finest butter is made, commanding the highest price.

**The National Bowl flushes clean** after using; not a particle of cream is lost and it is the simplest and easiest bowl to handle and clean.

**The Upper Bearing** is of phosphor bronze and flexible, maintaining its equilibrium without the slightest vibration; the lower bearing rests on a single cushioned ball bearing.

**Driving mechanism** of finest steel, with worm wheel of phosphor bronze; all parts machined to one-thousandth part of an inch.

**Special side ball bearings** of exclusive design help to make the National the easiest running Separator. The gear shield protects the gears. The oiling system insures an ample supply of fresh oil always in view and under control of the operator.

**Power attachments** can be furnished for all sizes of National Separators; they are easily and quickly adjusted to fit any engine or shaft.

## National Catalog

40 pages illustrated, gives complete and interesting facts about National Separators. We will gladly mail you a copy on request

**National** Separators for immediate delivery in the following sizes, and all prices are F. O. B. Portland.

	Hourly Capacity	Cows	Shipping Weight	Price
No. 24	500 lbs.	6 to 12	167 lbs.	\$70.00
No. 26	600 lbs.	10 to 30	170 lbs.	80.00

**NATIONAL SEPARATORS** are fully guaranteed to be as represented and as perfect as human skill can make them. All parts showing defective material or workmanship will be cheerfully replaced. Read the Guarantee in the special NATIONAL Catalog



# Blatchford's

## CALF MEAL PIG MEAL LAMB MEAL

The Blatchford Motto  
FOR OVER 50 YEARS

"QUALITY is the Best Advertisement"

## BLATCHFORD'S CALF MEAL

*The Complete Milk-Equal*



"Good to the last drop"

is in reality a substitute for milk—and should not be considered as an ordinary "feed" or "meal."

It contains all the elements of milk—a "baby food" for calves.

It is absolutely the *only* milk-substitute that contains in proper proportion the elements necessary for rapid and healthy growth, and the only calf meal that is thoroughly cooked and prepared for easy digestion.

Sold in 100, 50 and 25-pound bags

100 pounds makes 100 gallons of Complete Milk-Equal

## From Sow to Pasture

Wean your little pigs easily, safely and cheaply on



### Blatchford's Pig Meal

From Pignood to Porkage it gives big bone and solid flesh. Prevents loss of growth and vitality during the critical weaning period, and always **makes the runts catch up.**

In 100, 50 and 25-pound bags

## Blatchford's Lamb Meal

*The Complete Substitute for the ewe's milk*  
Saves your lambs, your milk, your money

It is a sweet, nutritious meal for growing and weaning motherless or poorly nourished goat-kids and lambs. Every pound of it, when mixed with water or skim-milk, makes a gallon of rich substitute for the mother's milk. It is easily assimilated even by the weakest animals and is an excellent food for nursing ewes.



**STOPS THE LOSS AT WEANING TIME**

In 100, 50 and 25-pound bags

## Blatchford's Milk Mash

Grows—Matures—Fattens

Prevents bowel trouble, leg weakness and carries them safely through the dangerous first three months.

Sold in 100 and 25-pound bags

## Blatchford's "Fill the Basket" Egg Mash

Fed to your pullets when three months old will make early layers and keep them in perfect health. Does not force or fatten. Feed it to all your hens.

Sold in 100 and 25-pound bags

	25-lb. sacks	50-lb. sacks	100-lb. sacks
Calf Meal.....	\$2.25	\$3.75	\$7.35
Pig Meal.....	2.25	3.75	7.35
Lamb Meal.....	2.25	3.75	7.35

	25-lb. sacks	50-lb. sacks	100-lb. sacks
Egg Mash.....	\$1.95	\$3.60	\$7.00
Milk Mash.....	2.10	3.90	7.60
F.O.B. Portland, Subject to Market Changes			

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**KOW-KARE** Makes Poor Cows Good  
—Good Cows Better,  
and Makes More Money for Cow Owners.

**"THE HOME COW DOCTOR"**

A handbook for cow owners, describing diseases that affect a cow's productivity and telling how to prevent and cure them in a single cow or a whole herd. **Free on request.**

**KOW KARE** (originally Kow Kure) is different from anything ever discovered for cow troubles. It is the only cow medicine that is strictly for cows only. It is not a stock food, but a specific remedy especially for cow diseases, such as Barrenness, Scours, Milk Fever, Caked Udder, Bloating, Red Water, Swelling of Bag, etc. It prevents abortion and removes retained after-birth. It tones up the system, renews vitality, restores appetite to cows that are "off feed," and keeps them healthy. Makes poor cows good, good cows better, and makes more money for cow owners. It increases the milk flow, and enables the cows to produce strong, vigorous calves. It's the dairyman's gold mine, and a sure profit-payer.

**Price 70c, cans wt. 1 3/4 lbs—\$1.40, cans wt. 3 1/2 lbs**

**AMERICAN DAIRY ASSOCIATION REMEDIES**

**BAG BALM**—A soothing, penetrating ointment for all affections of the bag.

**65c packages—wt 1/2 lb.**

**GRANGE GARGET CURE**—An unsurpassed and positive cure.

**70c cans—wt 2 lbs.**

**HORSE COMFORT**—For wire cuts and all flesh wounds.

**35c bottles wt 1 lb—65c bottles wt 2 lbs.**

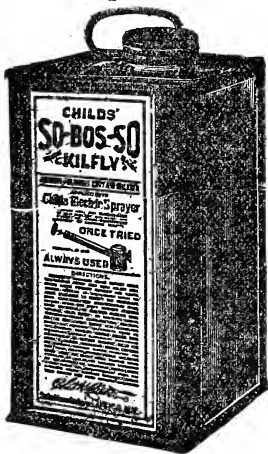
**AMERICAN HORSE TONIC**—A general improver for horses.

**35c boxes wt 1 lb—70c boxes wt 2 lbs.**

**Increases Milk Production  
20 1/2 Per Cent**

**SO-BOS-SO**

**Protects Stock From the  
Torture of Flies**



**Y**OUR cows will give more milk — your horse do more work on less feed if protected by So-Bos-So at a cost of less than 1/2 cent a head per day.

Horses hitched or harnessed will stand quietly or work in comfort if protected by So-Bos-So, and many runaways will be avoided. So-Bos-So is a boon to blacksmiths.

**So-Bos-So** is easily and quickly applied with a hand sprayer, cloth or sponge and is the only really efficient "fly bouncer" that we have ever seen.

Be sure to look for the trade-mark as there are many preparations offered that will prove disappointing.



**Prices** Gallon cans, wt. 10 lbs., each.....\$1.75  
Half-gallon cans, wt. 5 lbs., each.....1.15  
Quart cans, wt. 3 lbs., each......75

**"MEDICO" Tonic and Worm Destroyer**

**80% of all stock losses are due to worms—only healthy animals respond to feeding; wormy stock will not thrive—your money is fattening worms**

**MEDICO DESTROYS** the dreaded intestina and stomach worms and expels them from the system, tones up the digestive tract and keeps them away. Horses, cattle, sheep, hogs, all must have salt. A package of Medico mixed with 70 pounds of salt makes the most perfect medicated salt tonic and worm destroyer possible to obtain, and at a fraction of the cost of such preparations. Keep this salt before your stock, they will use the proper amount to keep them healthy.



Be sure this Trade Mark is on the package

**PRICE: 5-lb pkg. Mail. wt. 6 lbs. \$1.85**



5 lb. pkg. to 70 lbs. salt



## Laundry



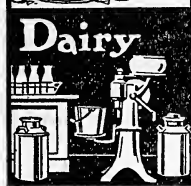
## Sick-room



## Refrigerator



## Garbage Can



## Dairy



### DISINFECTANT — DEODORANT — ANTISEPTIC NOT A POISON

**Powerful**—By Government method test B-K has over ten times greater germ-killing strength than carbolic acid. Much stronger than coal tar disinfectants—much safer.

**Clean**—B-K is colorless, leaves no stain on floors or walls.

**Deodorant**—B-K destroys foul odors—leaves no odor of itself. Does not soil animal's hair.

**Safe**—B-K contains no poison, acid nor oil.

**Cheap to Use**—B-K is so much stronger than other disinfectants that more water is used. It goes farther.

### SAFE — CLEAN — POWERFUL SAVES TIME — SAVES LABOR

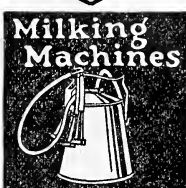
"BACILI-KIL" is a combination of hypochlorites stabilized by electrolysis. In our limited space, we cannot tell you all of its many uses.

*Ask us to send you Special Booklets.*

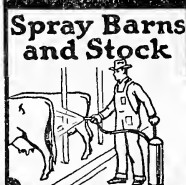
*Sold on an Absolute Guarantee to  
Give Satisfaction or money refunded.*

**Prices, boxed for shipment, F. O. B. Portland,**  
1-gal jug \$3.00, 5-gal carboy \$12.50.

*Dilutes 1 oz. to the gallon and more according to purpose.*



## Milking Machines



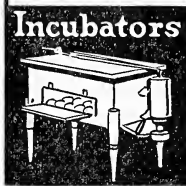
## Spray Barns and Stock



## Save Every Calf



## Hog Sanitation



## Incubators

## Markers for Cattle, Sheep and Hogs

Metal Ear Labels and Ideal Ear Buttons are satisfactory and easily applied marks of identification that are indispensable to breeders and stockmen. Your name and address on one side, numbers on the other.

**OVAL EAR PUNCHES**—Cattle size; wt. 1 1/4 lb. each, \$1.75; Sheep and Hog size \$1.40. Postage 10c each.



Metal Band  
Ear Marker  
and Aluminum  
Ear Button



Oval Ear  
Punch  
also used  
to attach  
Metal  
Band Ear  
Markers

Punch  
and Pliers  
for Alum-  
inum Ear  
Buttons

Not more than ten large letters can be used on the hog and sheep size; 15 large letters on cattle size or 22 small ones.

**Prices** Two sizes. Sheep and Hog Cattle  
100 with name and number.....\$1.75 \$2.25  
50 with name and number..... 1.25 1.50  
25 with name and number..... .85 .90  
100 with name only, or No. only... 1.25 1.75  
50 with name only, or No. only... 1.00 1.25  
25 with name only, or No. only... .75 .85  
Weight for mailing, Cattle size, 2 1/2 lbs. per 100; Sheep size, 1 lb. per 100.

### IDEAL EAR BUTTONS Pure Aluminum Hardened

Medium size, suits all animals, clinches tight cannot come out; double strength. Name and address on top side; number on bottom, or number and name can both appear on one side if not more than 18 letters and figures; if more than 18, both sides can be used to the limit of 30 letters and figures. Easily attached with special punch and pliers.

### PRICES

25, wt. 3 oz. . . . \$1.35 500, wt. 4 lbs. \$16.50  
50, wt. 1/4 lb. . . . 2.00 1000, wt. 6 lbs. 30.00  
100, wt. 3/4 lb. . . . 3.75  
Punch and Pliers, wt. 1 lb. . . . \$1.50





# POULTRY SUPPLIES

**I**N THE following pages we offer everything necessary for the successful production of poultry and you can depend upon the supplies and appliances listed as being the standards in their line.

NEW METHODS of brooding by the use of the Standard Colony Brooder Stoves have proven economical and successful, reducing the cost of raising chicks, developing them quickly into sturdy strong growers that make weight more rapidly than chicks brooded under old methods.

WE ARE PIONEERS in the Poultry Supply business in the Northwest, and our Famous Diamond Poultry Foods and Supplies are the standards wherever known. Our Poultry Supply Department is in the hands of trustworthy practical poultrymen—men of experience, who are competent to confer with and advise you on any subject pertaining to the raising of Poultry—a service that is free to you.

THERE NEVER WAS A TIME when the future looked more promising to the poultryman, whether amateur or professional, than the present. With a world shortage of poultry, high prices for all poultry products and an unlimited and growing demand, it would seem that there is little chance for failure if the right start is made and the business conducted along lines which have been found to be safe and sane.

ON THE OTHER HAND, there never was a time when there was greater need for careful thought and attention to essential details; the selection of the proper type of the proper breed; feeding; housing; prevention or cure of disease, and, finally, the elimination from the flock of the undesirable individuals commonly known as "star boarders."

IT HAS BEEN STATED, and probably is true, that the average back lot or farm hen lays less than 80 eggs per year, and if that is the case, the owners of such hens are keeping them at a loss of approximately ten dozen eggs per year per hen, as it is now an established fact that by proper selection and care it is easy to produce 200 eggs per year per hen and at no greater expense in time, material or labor than is required to produce the 80 egg average.

OTHER THINGS BEING EQUAL, a man will usually be more successful with the breed which he likes the best than with another breed, as good or perhaps better, in which he has little or no interest. Nearly all the well-known varieties of the present day are profitable under suitable conditions, and with good care it is not impossible to produce the 200-egg hen from the breed nearest at hand provided it is descended from a heavy egg-laying ancestry. There is no breed of which the hens will all be good layers and maintaining a high degree of efficiency in a flock can only be accomplished by eternal vigilance in weeding out the poor ones and seeing that no detail is overlooked in the care of those retained.

ON PAGE 170 OF THIS CATALOG you will find a list of books and pamphlets on the production and management of poultry, each work having been turned out by an expert in the business. If you would succeed in your chosen business, or pastime, you should make good use of those books. It is possible to economize in equipment without serious loss but it is decidedly unsafe to attempt to buy cheap breeding stock, cheap feeding material or to try to get along without the best books for instruction or reference. The real poultry enthusiast is as energetic and persistent in the study of his literature as he is in the care of his stock, knowing that his greatest success will be attained by keeping abreast of the times and in taking advantage of every short-cut and new discovery which will fit his particular conditions.

ON PAGES 162 and 163 you will find a list of poultry foods prepared under formulas worked out by experts of the widest experience, formulas which have stood the test of actual use for over 25 years and which, as there is no variation in their food values, have become standardized and are absolutely reliable. It is impossible to produce good poultry with poor food, and as our Diamond Quality Chick Food, Egg Food, Growing Food, Pigeon Food and All Grain Scratch Food are made in our own mill, under the supervision of our own experts, we know that no better foods can be found in any market at any time at any price. That "the best is always the cheapest" is a proverb which fits poultry raising more closely perhaps than any other line of modern business.



# THOROUGHbred POULTRY AND EGGS



**S**END us your orders for Poultry or Eggs, any breed or strain, and secure the advantage of expert, critical selection, that guarantees full value for your money. We do not depend on any one breeder, but can give you the pick of the prize-winning strains at right prices.

Prices depend upon whether or not exhibition birds are wanted. But the following general list gives average prices for **guaranteed thoroughbred stock from recognized fancy strains.**

For fancy exhibition stock write us your requirements. **We can fill the bill.**

## PRICE LIST OF EGGS FOR HATCHING

Thoroughbred Eggs		Exhibition Eggs		Thoroughbred Eggs		Exhibition Eggs	
Partridge Rocks.....	\$4.00-15		\$5.00-15	Orpington, Buff.....	\$4.00-15	\$18.00 C	\$7.00-15
Plymouth Rock, Barred.....	3.00-15	\$15.00 C	5.00-15	Orpington, White.....	4.50-15	20.00 C	10.00-15
Plymouth Rock, White.....	4.00-15	18.00 C	7.00-15	Black Spanish.....	5.00-15		
Plymouth Rock, Buff.....	4.00-15		7.00-15	Brahmas, Light.....	5.00-15		7.00-15
Wyandotte, White.....	4.00-15	15.00 C	5.00-15	Houdans.....	5.00-15		7.00-15
Wyandotte, Silver Laced.....	3.50-15		5.00-15	Dorking, Gray.....	5.00-15		7.00-15
Leghorns, White.....	2.50-15	12.50 C	3.00-15	Hamburg, Spangled.....	3.00-15		3.50-15
Leghorns, Brown.....	3.00-15	15.00 C	5.00-15	Bantam, all breeds.....			2.50-7
Leghorns, Buff.....	3.50-15		5.50-15	Ducks, Indian Runner, Fawn and White.....			3.00-11
Andalusian, Blue.....	3.00-15		5.00-15	Ducks, Indian Run. Eng. Penc.....			3.50-11
Anconas, Mottled.....	3.00-15		5.00-15	Ducks, Pekin.....			3.00-11
R. I. Red, S. C.....	3.00-15	15.00 C	5.00-15	Geese, Toulouse.....			6.00-11
Minorca, S. C. Black.....	3.00-15	15.00 C	5.00-15	Geese, White China.....			6.00-11
Minorca, S. C. White.....	5.00-15			Turkey, Bronze.....			6.00-11

You can send your order in direct at the above figures.

## DAY OLD CHICKS

From the finest laying strains, selected from **O. A. C. Stock.** White Leghorn eggs from 221-egg hens mated to cockerels from 300-egg hens. All other breeds of highest egg producing strains. All chicks tested and guaranteed free from White Diarrhoea, O. A. C. standard test.

**DELIVERIES will be made in the order received until sold out. Order Early.**

## PULLETS AND COCKERELS

Should you not be able to secure your stock during the early part of the season, when baby chicks are available, you can still fill up your flocks for the winter laying season by sending in your orders for our well-grown pullets, from three months to one year old, of which we can secure a full stock of the very best grades and breeds at reasonable prices during the fall and early winter. Write us fully in regard to your needs and we will promptly quote you prices on either pullets or cockerels for immediate shipment.

## BELGIAN HARES

### Rufus Reds and Flemish Giants

Fine sturdy stock of extra vigor and vitality. Full instructions for care and housing with every purchase.



Thoro-Bred  
Pedigreed  
Belgian Hares

Prices depend on grade of stock and special quotations will be made on request.

## PIGEONS

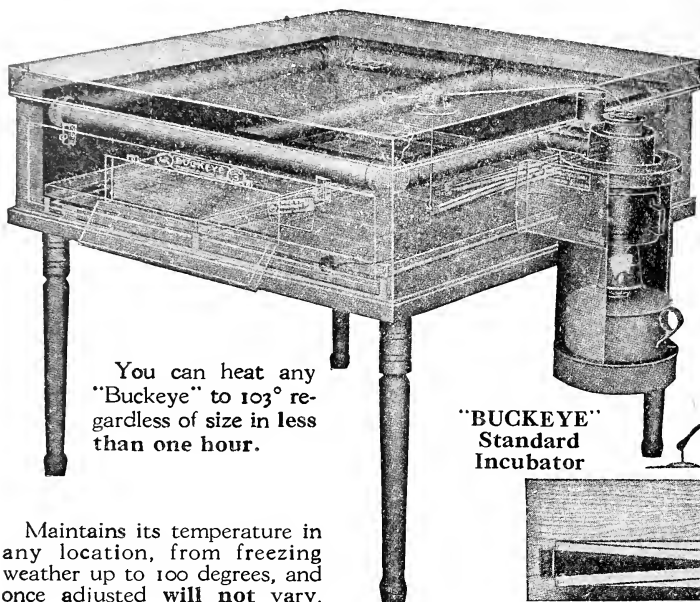
	Per Pair
Carneau, Solid Red.....	\$5.00
Carneau, Splash.....	3.50
White Kings.....	4.50
Homers.....	3.00
Tumblers.....	\$3.00 to 5.00
Fantails.....	4.00 to 10.00
Runts.....	8.00 to 15.00
Turbits.....	4.00 to 7.50
Trumpeters.....	3.50 to 5.00
Rollers.....	2.50 to 3.50
Magpies.....	4.00 to 6.00

Prices are F. O. B. Portland

Order ahead. Always allow from 3 days to a week for us to make delivery.



# "BUCKEYE" Hot Water INCUBATORS



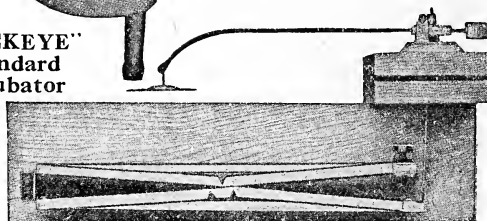
You can heat any "Buckeye" to 103° regardless of size in less than one hour.

Maintains its temperature in any location, from freezing weather up to 100 degrees, and once adjusted will not vary.

You fill the lamp, turn the eggs—and the "Buckeye" will hatch every hatchable egg. No experience needed.

Nearly half a million "Buckeyes" are in operation in all parts of the United States.

"BUCKEYE"  
Standard  
Incubator



Buckeye Thermostat

## READ THE FOLLOWING STATEMENTS FROM THE MANUFACTURER

THE unprecedented success which has followed the Buckeye for 25 years is primarily due to the invention of the **Buckeye hot-water system**, without which that perfect balance between the **temperature, moisture and ventilation** which is so necessary to successful incubation, would be a physical impossibility. Heating the egg chamber without cooking all the moisture out of the air is responsible not only for the abundant supply of natural moisture but at the same time the soft, radiated heat from the hot water tank provides an absolutely uniform temperature and permits the perfect ventilation of the egg chamber.

We guarantee the temperature of every Buckeye we build to be uniform within a fraction of a degree at all times in the egg tray.

The regulation of temperature is purely automatic and needs no watching. You set the regulator when the hatch is started and do not touch it again until the next hatch.

The incubator can be operated in any temperature regardless of sudden changes. Regardless of size or price, we guarantee every Buckeye to work satisfactorily in any temperature down to freezing. No previous incubator experience is required to operate a Buckeye. Outside of filling the lamp and turning the eggs, everything is automatic and requires no attention from the operator.

## PRICES AND SIZES OF BUCKEYE INCUBATORS—F. O. B. Portland

	Size	Wt.	Price		Size	Wt.	Price
No. 14—	65 egg, short legs.	55 lbs.	\$19.75	No. 2—	175 egg	135 lbs.	\$55.25
No. 16—	120 egg	85 lbs.	33.75	No. 3—	250 egg	200 lbs.	69.75
No. 17—	210 egg	125 lbs.	46.00	No. 4—	350 egg	230 lbs.	83.50
No. 1—	120 egg	110 lbs.	46.50	No. 5—	600 egg	325 lbs.	129.00

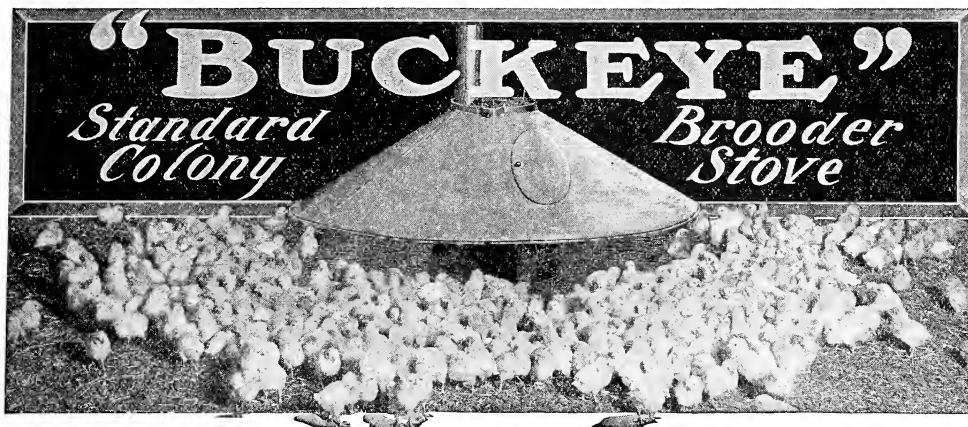
Nothing left to the judgment of operator—that's why a "Buckeye" never goes wrong

## 20% BETTER HATCHES

Baker-Hart Poultry Farm reports 20% better hatches from 600-egg Buckeye than from any other incubators they have used in their many years' experience.

A large percentage of the agricultural colleges and experiment stations throughout the United States have adopted the Buckeye as the standard incubator, which is a high tribute to any mechanical device.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



*This is the Famous Original Brooder Stove that has been copied or imitated by every manufacturer of Brooder Stoves*

## **Self Feeding      Self Regulating      Everlasting**

**Cuts the Cost of Equipment and Operation to Less than Half—Reduces the Time and Labor to Less than a Fourth. Nothing to Break. Nothing to Wear Out. The Simplest, Safest and Most Economical Brooder Ever Invented.**

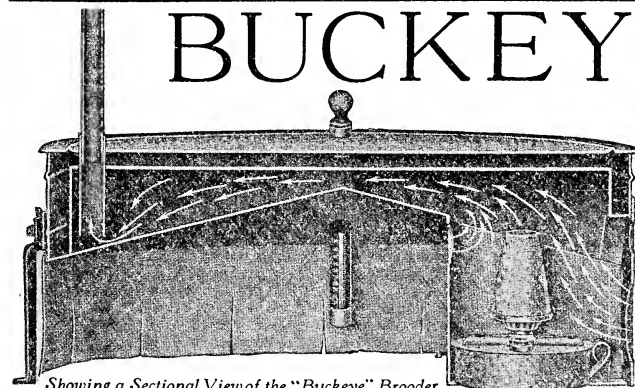
These brooder stoves are efficient and satisfactory in every respect; require but little attention, can be operated anywhere where natural temperature does not fall below freezing; burn hard coal, coke, briquettes or gas; fill the firebox once and shake down the ashes twice a day and they require no further attention.

The Hover is galvanized steel, can be readily raised out of the way when the stove needs attention, has no curtain to wear out or collect dust and will care for any number of chicks from one or two up to full capacity. As the Hover is open all around the ventilation is perfect and the chicks never crowd.

The temperature is regulated automatically by a thermostat attached to the stove and which will hold the temperature within a range of one or two degrees at all times.

Made in two sizes, No. 19 having a hover 52 inches in diameter with capacity up to 1,000 chicks; No. 18, 42-inch hover, capacity 500 chicks. Price includes one length 3-inch pipe.

<b>Prices</b>	No. 19.....	\$34.25
	No. 18.....	27.75
	Gas Burner for Brooder Stove.....	4.50



*Showing a Sectional View of the "Buckeye" Brooder*

The Portable Lamp Brooders are designed to meet the needs of the poultry raiser who produces only a small number of chicks. It is smaller, more compact and has a capacity up to about 150 chicks.

The body of the brooder is made of galvanized iron and has a lamp chamber which is separate from the space occupied by the chicks. The air is heated by passing around and over the lamp and is distributed equally over the entire brooding chamber. Each brooder is supplied with a thermometer which registers the actual temperature of the brood chamber at all times.

<b>Prices</b>	Made in	No. 20—Diameter 19 inches, 60 chicks.....	\$14.00
	Three	No. 21—Diameter 22 inches, 100 chicks.....	17.75
	Sizes	No. 22—Diameter 30 inches, 150 chicks.....	22.25

**For Prices on extras, such as Lamps, Thermometers, Chimneys, Wicks, etc., see Page 156**

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**

The Lamp Brooder that broods like a stove Brooder. The chicks hover at the curtain, making crowding impossible.

Note that every particle of air under the hover is drawn from the outside—then up into the upper chamber, where it is discharged through the exhaust tubes. Every particle of impurity is drawn up and out—nothing can come back.



# THE BUCKEYE BLUE FLAME WICKLESS

**OIL  
HEATED**



**COLONY  
HOVERS**

**Burns Coal Oil—Has a Clean, Steady Blue Flame that Gives an Abundance of Heat. No Wicks to Trim. No Gas or Fumes. Safe and Economical.**

**THE WICKLESS BURNER** has a visible oil feed that is easily regulated and controlled. The oil container is glass and is outside of the hover—the oil being fed to the lighting ring in the center of the hover only as needed and cannot become heated or ignited by the burner.

We furnish a one-gallon self-feeder glass oil container with the 42 and 52-inch hovers. These are equipped with a safety valve so oil is dropped to heater as needed.

**THE HOVERS** are made of galvanized steel, have steel legs and have a capacity with our 42-inch hover of 500 chicks or less; with our 52-inch hover, 1,000 chicks or less.

## SIZES AND PRICES

No. 11	42-inch Hover, Weight 50 lbs.	Price Complete	\$25.75
No. 12	52-inch Hover, Weight 60 lbs.	Price Complete	29.75
Lighting Rings, per dozen	\$2.00	Burners, complete, each	\$4.00
Oil Reservoir, complete, 1-gal., each	1.25	Chimneys, each	1.25
Heater only, complete, each			15.00

## "Buckeye" Incubators—Price List of Extra Parts

Thermometers for Incubators (tested)	\$1.00	Extra Egg Trays (Continued)—	
Thermometer Holders for Incubators	.15	Burlap Trays for all Incubators	\$1.50
Lamp Bowls for all Incubators	1.00	Incubator Legs (long)	.75
Lamp Burner No. 2 (will fit Incubators Styles A, B, and C, Standard 110 and Standard 220)	.50	Incubator Legs (short)	.35
Lamp Burner No. 35 (will fit Incubators No. 60, No. 1, No. 2, Style E and Style H)	.75	Dampers (only) for Incubators	.25
Lamp Burner No. 50 (will fit Incubators No. 3, No. 4 and No. 5)	1.00	Egg Testers	.50
Lamp Burner No. 3	.75	Drain Caps for Incubators	.25
Lamp Chimneys for all Incubators	.50	Filler Caps for all Standard Incubator Tanks	.35
Lamp Wicks for all Burners, per dozen	.35	Filler Caps for Incubator Lamp Bowls	.25
Thermostats for Incubators (metal)	2.50	Door Catches for Standard Incubators	.25
Thermostats for Incubators (hard rubber)	1.50	Underwriters' Lamp Support with Gas Heater Complete	4.50
Connecting Rod and Nut for all Incubator Regulators	.50	Buckeye Hot Water Tanks (complete)—	
Lever for all Incubator Regulators	1.00	For Incubator Standard No. 1 (copper)	6.00
Brackets for all Incubator Regulators	.35	For Incubator Standard No. 2 (copper)	6.75
Lamp Support for Standard Incubators	2.50	For Incubator Standard No. 3 (copper)	9.75
Lamp Hanger for Incubators Styles A, B, C	.50	For Incubator Standard No. 4 (copper)	10.75
Lamp Hanger for Incubators Styles E and H	1.50	For Incubator Standard No. 5 (copper)	20.75
Extra Egg Trays—		For Incubators Nos. 14 and 15 (galvanized)	3.00
For all Standard Incubators, each	2.00	For Incubator No. 16 (galvanized)	4.00
For Incubator Styles A, B and C, each	1.25	For Incubator No. 17 (galvanized)	6.00
For Incubators Nos. 14 and 15	1.25		
For Incubators Nos. 16 and 17	2.00		

When ordering new tanks for old incubators, the order must be accompanied by the exact dimensions of the tank to be replaced. Diagrams for this purpose will be furnished on application.

When ordering new parts for old incubators, always mention the size and design of the incubator.

## EXTRA PARTS FOR BUCKEYE BROODERS

Thermometers (tested)	\$1.25	Lamp Burners (No. 35)	\$0.75	Lamp Chimneys	\$0.50
Lamp Bowls	1.00			Lamp Wicks, per dozen	.35

## EXTRA PARTS FOR STANDARD BROODERS

Wafer Thermostats	\$0.50	Stove Lid	\$0.75	Hover Ring	\$2.00
Lower Regulator Arms	1.00	Check Draft Cover	.50	Hook Rod	.25
Upper Regulator Arms	1.50	Check Draft Protector	.50	Gas Burners	5.00
Half Grate (plain)	1.50	Ash Pit Door	1.00	Upper Flue Cylinder	5.00
Shaker Grate	1.50	Ash Pan	.50	Fire Bowl	4.50
Shaker Handle	.50	Regulator Bolt with Wing Nut	.20	Ash Pit	3.50
Grate Lock	.50	Baffle Plate	1.00	Base	3.50

We supply one length of pipe free with every stove, and more can be ordered at the following prices: 3-inch for Brooder Stoves, per length .30c  
Elbows for 3-inch Pipe. .25c

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

## NORWICH AUTOMATIC EXERCISER AND FEEDER

Every kernel of grain put into this feeder will go to your flock, not a single one will be wasted. Absolutely bird and rat proof. Rain or dampness cannot affect it. Saves its cost in 90 days by preventing waste, requires no attention except filling of hopper when empty. Adjustable for slow or fast feeding.

### KEEPS THEM BUSY ALL THE TIME

Guaranteed to improve the flock, increase the egg production and save feed. Descriptive pamphlet on request.

### MADE OF HEAVY GALVANIZED IRON

	Each
No. 1—8 quarts.....	\$4.00
No. 2—14 quarts.....	5.25
No. 3—20 quarts.....	6.50



## Norwich Dry Mash Hopper

Solves the problem of Automatic Dry Mash Feeding. The vibrator rods make clogging impossible and the construction of feed basin eliminates waste.

Price, 8 qt. capacity, weight 8 lbs., \$3.75

## Apaco Poultry Feeder

This has the same mechanical features that make the Norwich so successful, but is made to hang. Complete with adjustable feed discharge.

Price, 12 qt. capacity, weight 5 lbs., \$2.35

## FEEDERS AND FOUNTAINS

### GALVANIZED WALL FOUNTAIN

No. 5. Something new and serviceable. To be hung on the wall or against an upright post. The patented construction protects the water from becoming soiled. One gallon size, weight 2 lbs. Each \$1.10

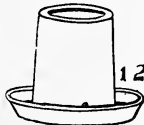
Two-gallon size, weight 2½ lbs. Each \$1.35



### No. 12 GALVANIZED IRON FOUNTAINS

Our Galvanized Iron Drinking Fountains, we believe, are the best in use. They are easily filled, cleaned and kept clean. Lighter than the earthenware and safer to ship.

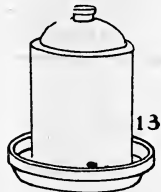
Price—Small size, weight ¾ lb., each 45c; medium size, weight 1 lb., each 55c; large size, weight 1½ lbs., each 70c.



### SANITARY STONE FOUNTAIN

These are strong and well finished; made in two pieces. They probably keep the water cooler than the galvanized fountains, but are heavier to handle and more liable to break.

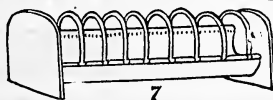
Price—½ gal. 40c; 1 gal. 60c; 2 gal. 85c.



### No. 7 WIRE COVERED FEEDER

A practical, convenient feeder for young chicks. Durable and easily cleaned. Weight 1 lb.

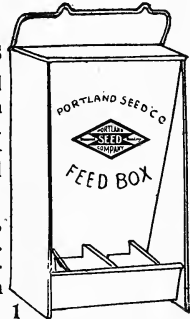
Price, 12 inches each 50c.



### No. 1 "DIAMOND" SANITARY SELF-FEEDING BOXES

Made of heavy galvanized iron; soon pays for itself in preventing waste of feed. Keeps grit, shells and charcoal before the fowls at all times.

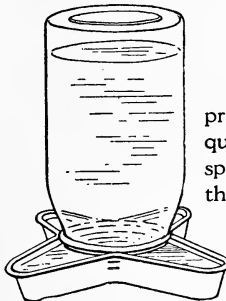
Price, 3 compartments, weight 2½ lbs., each, \$1.10. Large size, 2 compartments, weight 3 lbs., each \$1.35.



### STAR FOUNTS AND FEEDERS

Made of one solid piece of pressed metal, holds a Mason quart jar, has more available space for drinking or feeding than other feeders of this class.

Price, without jar, Each 20c

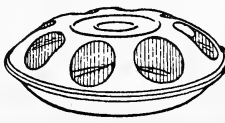


### CIRCULAR CHICK FEEDER

Made of heavy galvanized iron. The cover fits tight and chicks cannot climb into it.

Convenient and economical. Made in two sizes.

8 holes. Each 30c  
12 Holes. Each 45c







## MANN BONE CUTTERS

The only mill that will cut Green Bone and not clog

**T**HE Mann's Green Bone Cutter is offered to the poultry world on a warranty to produce a perfectly edible poultry food, with no waste, from any lot of green bones, with less labor, and less annoyance than any other bone cutter.

We send the Mann's to any responsible poultryman with this understanding: If you are not satisfied that it meets every claim we make for it, notify us, and we will give instructions to return the machine, and will, upon receipt of same **refund purchase price**. Could you ask more?

The Mann's is the only machine which has a self-governing feed, producing uniform pressure against the knife, whether the bone be hard or soft. You set the machine to suit your strength, and it never requires more power than you set it for.

### MANN'S No. 5

Has four knives, large solid cylinder, and has the latest patent automatic governing spring feed which makes it one of the best low-priced bone cutters ever offered. We can furnish with crank, balance wheel, or mounted on iron stand.

Mechanism of the Mann's showing automatic force-feed, cylinder parts, etc. Mann's catalog gives all details.

### MANN'S No. 7

The New No. 7 is mounted on a strong iron stand, and has patent automatic governing spring feed. Large open-hinged cylinder, giving instant access to all working parts, has six knives, gear guard, anti-clog device, heavy balance wheel and other improvements. (See cut.)

### MANN'S No. 7½

**Adapted to run either by hand or power without any change.** The particular advantage of the 7½ is that while it is a complete power machine, it can be operated by hand just as easily as the No. 7. It is recommended even if you have no power, for should you get power you need be at no further expense.

### MANN'S No. 9

About the same as No. 7, except that it has a larger cylinder and greater holding capacity, different design and larger table.

### MANN'S No. 11

The No. 11 is exactly the same as No. 9, with the power parts added. It has all the latest improvements. Capacity, 100 pounds per hour.

### MANN'S HANDSOME 40-PAGE CATALOG

*is fully illustrated and tells all about the different style Green Bone Cutters, Clover Cutters, Corn Shellers, Grit Smashers, etc., and contains much valuable information. Free on request.*

### MANN'S CORN SHELLER

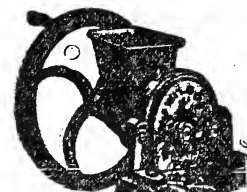
Best low-priced corn sheller made. A profitable tool if you have corn to shell. Weight 10 lbs.

**Price \$3.75**

### MANN'S CAST IRON MORTAR

For breaking glass, crockery ware or oyster shells. Weight 33 lbs.; height 12 inches; 9 inches square; pestle 4 feet long.

**Price \$5.85**



Wilson's Mill No. 1

## WILSON DRY BONE MILL No. 1

This is a practical mill, grinding all kinds of shell, crockery, grit, burnt or dry bone, feed, etc., coarse or fine. Weight 33 lbs.

**Price \$6.90**

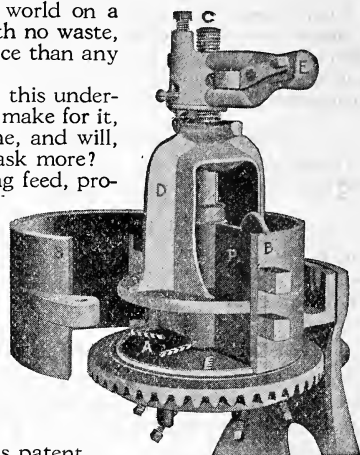
## WILSON GRIST MILL No. 0

Made for grinding flour, corn meal, etc., and for cracking grain. Weight 30 lbs.

**Price \$6.90**

**Caponize Your Cockerels** and get from three to four times the usual market prices for roosters. At the same age and on the same food they will weigh twice as much and the demand for good capons is unlimited. See page 159.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS PAGE TWO OF CATALOG**





## SPROUTED OATS

INCREASE THE EGG YIELD, DECREASE THE FEED BILL

A **Bushel** of oats sprouts into **3 bushels** of nutritious green feed. Hens lay more eggs, young chicks grow faster and are more healthy on green feed. Oats, rye and wheat can be easily and quickly sprouted and make the most economical and profitable food for winter. We carry the **DOUBLE QUICK**.

### "DOUBLE QUICK"

No. 5—5 Bu., 12 trays, 400 to 600 hens.....\$57.50  
No. 6—8 Bu., 16 trays, 700 to 1200 hens—Write for special prices

### COLFAX SECTIONAL OAT SPROUTERS—All Metal

Outside wall lined with asbestos—inside wall metal grain chamber, heat passing between the walls. One of the principal advantages of the Colfax Sprouter is the very small floor space occupied. If an additional quantity of sprouted grain is needed, owing to an increase in the size of the flock, one or more additional sections may be added, greatly increasing the capacity without in the least enlarging the space occupied.

Small Base ¼ bu., 2 trays, 25–35 hens, wt. 25 lbs. \$12.50  
Small Section ¼ bu., 2 trays, 25–35 hens, wt. 12 lbs. 5.50

Large Base 1 bu., 2 trays, 100–150 hens, wt. 50 lbs. \$21.00  
Large Section 1 bu., 2 trays, 100–150 hens, wt. 33 lbs. 10.50

### LAMPLESS GRAIN SPROUTERS—Must be used in a heated room

All metal, convenient to drain. Both sprout and root are aerated to promote a healthy growth without mold.

No. L½—½ bu., 4 trays, 50 hens, wt. 12 lbs. \$5.50 No. L1—1 bu., 5 trays, 100 hens, wt. 20 lbs. \$9.00  
No. L2—2 bu., 6 trays, 200 hens, wt. 35 lbs. \$13.50

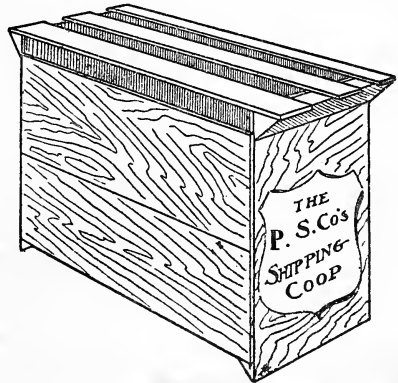
## P. S. CO.'S SHIPPING COOPS

These Coops are all wood, neat, very light, but strong. Poultry raisers who are selling poultry at fancy prices should always use these coops to ship their birds in. If your birds are worth shipping at all, they are worth putting in a neat up-to-date coop.

Our prices are very low. Coops always shipped K. D. (in flat), as the freight rate is much lower. Order a few of each size and have them on hand for rush orders. No. 1, for single bird or small pair; No. 2, for large bird or small trio; No. 3 for large trio or pen of small birds.

### PRICES

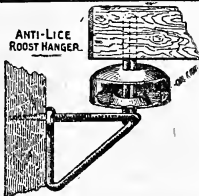
	Each	Six for
No. 1—10x21x18.....	\$0.60	\$3.25
No. 2—12x24x20.....	.75	4.00
No. 3—20x24x20.....	1.00	5.25



### ANTI-LICE Roost Hanger

Screws into the wall. Keep the cup filled with Lee's Lice Killer or kerosene.

Price each 25c; pair, 45c; doz \$2.50.



## CAPONIZING INSTRUMENTS

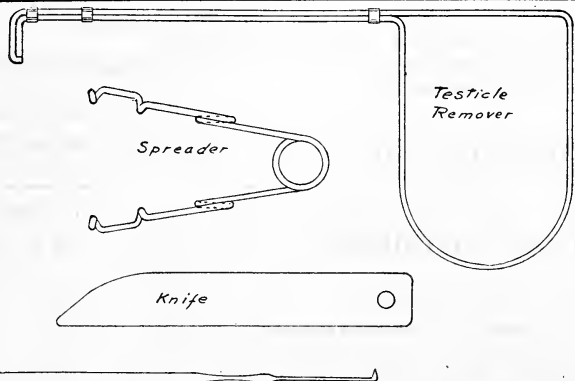
The demand for capons exceeds the supply, the price per pound averaging more than twice as much as that paid for ordinary roosters.

P. S. CO.'s **STANDARD**, the best low priced set. While they last, price postpaid \$2.00

### VALENTINE'S CAPONIZING INSTRUMENTS

Simple and easily understood by the beginner and enable the expert to do faster and better work than ever before. These instruments make it possible to complete the operation from one side and through one incision, lessening the danger to the fowl and saving more than half the time. Full and complete directions for use, also for care of the fowl before and after the operation.

Price per set, postpaid, \$4.50



BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## Miscellaneous Poultry Supplies—Continued



Kant-Krack Egg Box is specially designed for the safe delivery of valuable eggs for hatching and is a great favorite with poultrymen.

**Made of heavy corrugated paper.** Only a few seconds' work to set the box up, pack it with eggs, and address it. These boxes are light but very strong, being firmly braced, and will stand the weight of several hundred pounds without crushing.

No.	Size	Wt.	Each	Six	Dozen
3	15-Egg	1 lb.	\$0.30	\$1.60	\$3.00
4	30-Egg	1½ lb.	.45	2.60	5.00
5	50-Egg	2 lb.	.70	3.90	7.50

### IDEAL PAPER EGG BOXES

Intended for use in delivering eggs to private families. Nicely printed with a blank space for your name and address. Weight 12 lbs. per 100.

Prices—1-dozen size, 30c dozen; \$2.00 per 100; \$18.50 per 1000. Sample box by mail 5c

### NEW PARCEL POST EGG CRATE



**The Strongest Lightest Egg CARRIER.**

You can mail eggs in this crate 150 miles with return of crate for 3¼ cents a dozen. Sizes—6 or 12 doz. each.

Prices—Each, complete, 65c.

### LIVE CHICK BOXES

Our Live Chicken Boxes for delivering day-old chicks are safe, economical, convenient. They come in three sizes at the following prices:

25-chick size, each 30c; doz \$3.00; 50-chick size, each 45c; doz \$4.50; 100-chick size, each 60c; doz \$6.00.

**Diamond Chick Food** Saves little chicks. Helps them to grow into big strong healthy birds. No other food is necessary. See page 162

We are Agents for the Famous Blatchford's Foods

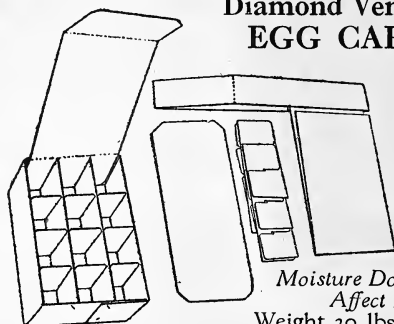
**FOR BLATCHFORD'S CALF MEAL—PIG MEAL—LAMB MEAL, ETC.**

Prices and Full Information on Request

**Poultry Lice are Expensive Livestock.** Keep lice and mites out of your poultry houses by the liberal and persistent use of Lee's Liquid Lice Killer. Spray it on walls, roosts and floors, also on the bottom of the nest boxes under the straw. A supply should be on hand at all times.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG

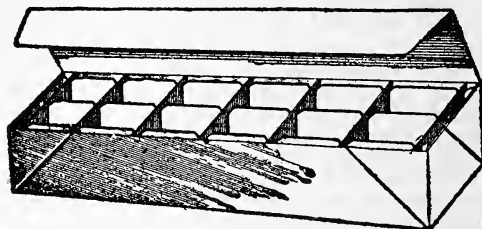
### Diamond Veneer EGG CARTON



Weight 20 lbs. per 100 (Packed flat in crates of a thousand; covers in bundles of 1000).

A safe, strong package that will hold its shape and deliver the eggs without loss.

Prices: 1 doz 20c; 100, \$1.50; 1000, \$12.00



### SUWANEE EGG CARTON

Throw away your "fillers." Use this carton; packs three to a layer in an ordinary egg case. and is always ready for delivery. **Saves handling—saves breakage.** Built with double walls. Ask for sample. Weight with fillers, 3 ozs. each.

Price: Doz 35c; 100, \$2.15; 1000, \$20.00

### EGG CASES

30-doz size complete with fillers. Each 85c

### Egg Case Fillers

Packed in cases containing fillers for 12 30-doz cases. Per Case \$4.50

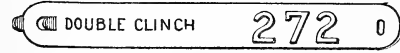
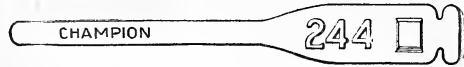
Fillers for 1 30-doz. case. 45c  
Fillers. Each 5c

## MISCELLANEOUS POULTRY SUPPLIES

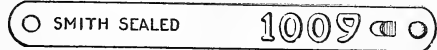
### LEG BANDS FOR POULTRY AND PIGEONS (SEE CUTS)

Every chicken must have a leg band on before it can be entered in a poultry show. In ordering *Leg Bands*, be sure to state size wanted, or breed of fowls bands are to be used on, and number wanted or males or females.

**CHAMPION.** Latest and best adjustable leg band out. Has neat, compact, and smooth fastening, with no catching points; easily attached and absolutely secure. **Prices postpaid, 12 for 20c; 25 for 35c; 50 for 60c; 100 for 95c.**



**DOUBLE CLINCH.** A new band, very safe; no exposed corners, ends or loops; has double fasteners. **Prices postpaid 12 for 20c; 25 for 40c; 50 for 65c; 100 for \$1.00.**



**PIGEON BANDS.** We can supply the **Double Clinch and Open Band**—you simply clasp it on—at price of Double Clinch.

**SMITH SEALED.** Made of aluminum and so constructed that by simply crushing a soft rivet they are sealed on the bird's leg, and must be destroyed to be removed. **Prices postpaid, 12 for 35c; 25 for 60c; 50 for \$1.00; 100 for \$1.85.**

**SMITH SEALED—Pigeon. Doz 30c; 100 \$1.50**



**SPIRAL COLORED LEG BANDS.** Made like a key ring—easy to put on, nothing to catch or tear off—instantly identifies your birds as far as you can see the color. All sizes from chick to mature fowls.

**Ten Colors—Red, White, Yellow, Black, Pink, Green, Brown, Purple, Light Blue, Dark Blue.** **Prices postpaid, 12 for 20c—25 for 35c—50 for 65c—100 for 90c.**

### SMITH SEALING TOOL

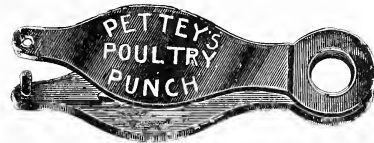
Made especially for sealing the Smith leg bands. **Plain jaw \$1.50; lettered jaw, any letter, \$1.75; postage 10c.**

### RELIABLE POULTRY MARKER

For marking the web between the toes. One of the best and handiest markers. **Postpaid 35c**

**POULTRY KILLING KNIFE 50c**

**SCISSORS POULTRY PUNCH 20c**



### PETTEY'S POULTRY PUNCH

Latest, most convenient Poultry Punch; can be put on a key ring or used for a watch charm. Will not clog. Very practical. **Postpaid 25c**

## THERMOMETERS

### FOR INCUBATORS—TESTED

**"Buckeye."** Tested. **Each \$1.00**

**Fig. 6—P.S. Co.'s triangle shape; metal back. Each \$1.00**

**Fig. 10.—P.S.Co.'s Straight Metal back. Ea 75c**

### FOR BROODERS

**"Buckeye."** Tested. **Each \$1.25**

**Fig. 2.—P.S.Co.'s; for any style brooder. Ea 75c**

### BREEDER'S MAGIC EGG TESTER

**The Manufacturer's Challenge—Any person in the world to hatch one egg the Magic Egg Tester registers unhatchable before incubation. No light. No electricity. No expense and lasts a life-time. Shows the hatchable eggs before incubation.**

**Don't set another egg until you have the Breeder's Magic Egg Tester. Price each \$2.50**

**MANDY LEE EGG TESTER—Made to use on lamp, fits No. 2 burner. Price 50c postpaid**

### FOR GENERAL USE

**Cabinet No. 5. 8-in. wood back, nice finish, 50c**

### HOTBED THERMOMETERS

For taking temperature of soil at varying depths.

**No. 3 1/2. Each \$1.50**

**No. 3. Each \$1.75**

**All Metal. Each \$2.00**

### NEST EGGS

**China—Best grade Opal Eggs. Weight per doz 3/4 lb. Price—Each 5c; 12 for 50c**

**LIME—Indestructible. Weight per doz. 2 lbs. Price: Each 6c; doz. 60c; postpaid, ea. 10c**



Wire Nests

### WIRE HEN'S NESTS

Strongly made; very durable; fasten to the wall; no harbor for vermin. Weight 10 oz. each. **Price each 30c; dozen \$2.75.**



## "Diamond Quality" Poultry Foods

**DIAMOND Poultry Foods** are manufactured from choice, clean, wholesome material. They are made to a standard and are the result of a lifetime of careful study and experiments by a thoroughly practical expert, who is a recognized authority on feeding.

### Diamond Chick Food

A Properly Balanced Ration that will make chicks grow and keep them healthy.

For Young Turkeys, Pheasants and all young fowls **DIAMOND CHICK FOOD** is unexcelled. The safest, most dependable and satisfactory food.

The select grains that are used in the preparation of Diamond Chick Food are cut by a special process, screened to a uniform size and run through a Fanning Mill to remove the dust and meal, which is the fatal element in most Chick Foods. After this process the ingredients are carefully weighed and mixed in correct proportions. No guess work.

Diamond Chick Food gives the chicks just what Nature intended they should have, a food composed of grains (cracked), small seeds, bone, dried sweet meat, charcoal, etc., mixed in the right proportions to produce a quick and profitable growth without loss.

Diamond Chick Food is so convenient, always ready for use, and you can raise so many more chicks by feeding it that it is the cheapest food you can buy.

Write for Prices.

Our trade mark on every original package is your protection. Demand it of your dealer.

Baby Chicks must have clean wholesome food. They are sure to thrive on "Diamond."



## Diamond Egg Food

### A LAYING MASH

Makes hens lay when eggs are high; keeps poultry healthy. Unequaled for feeding young chicks.

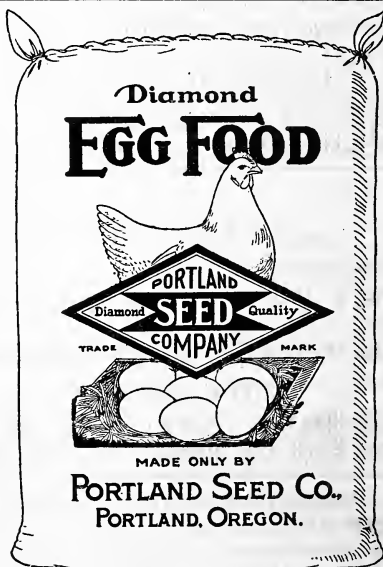
A complete ground food to be fed dry or wet. Starts hens laying and keeps them at it. Hastens moulting. Puts poultry in prime condition. Makes young fowls grow fast.

No Drugs—No Stimulants—but a rich, wholesome, nourishing food for growing fowls and hens, encouraging rapid growth and increasing egg production. Can be fed dry or as a mash and is the most successful combination of egg producing elements.

Feed Diamond Egg Food to the hens in your breeding pens and they will produce eggs of strong vitality that hatch into sturdy, vigorous chicks.

Put up in 100-lb bags. Full weight.

Write for Prices.



## Diamond Growing Food ALL GRAIN

For Quickly Developing Little Chicks Into Big Profit-Paying Broilers

Our special formula for promoting a rapid, healthy growth, and should be fed after the third or fourth week; nothing else needed; will quickly produce large, plump "Broilers."

Write for Prices

ALL PRICES ARE SUBJECT TO MARKET CHANGES WITHOUT NOTICE  
BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## Diamond Scratch Food

ALL GRAIN

*Complete, economical and satisfactory for every feeding requirement from the three-weeks-old chick to mature fowls.*

A perfect "working ration" for fowls. Carefully prepared in correct proportion, a veritable "hen's delight." When fed in conjunction with Diamond Egg Food a scant allowance scattered in the scratching material in the morning keeps the hens busy hunting for the grains. In the evening feed sufficient that hens may go to roost with crops full.

Diamond Scratch Food can be fed to young chicks at three weeks and has every element necessary to hasten normal growth and build up bone and flesh.

A rich nourishing food they greatly relish.

Write for Prices.



## Diamond Pigeon Food

Made to a Standard

A properly balanced ration, easily assimilated, gives wonderful results when fed to squabs, or in preparing for exhibition; fed by the big squab breeders as a regular working ration, the most economical and satisfactory food for rapid growth.

Write for Prices.

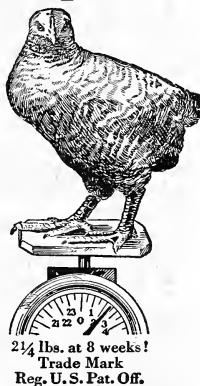
## Blatchford's Milk Mash

For Little Chicks, Broilers and Roasters

Grows—Matures—Fattens

This mash is a milk-equal that prevents bowel trouble, leg weakness and carries them safely through the dangerous first three months.

You can put thirty-five per cent increased weight on broilers and soft roasters in about twelve days. Milk fed chickens are better quality and bring better prices.



Sold in 25 and 100-pound bags

## Blatchford's "Fill the Basket" Egg Mash

Fed to your pullets when three months old will make early layers and keep them in perfect health. Does not force or fatten. Feed it to all your hens.

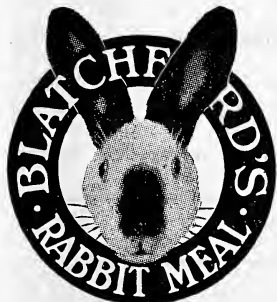
Feed it dry just as it comes from the bag.

Sold in 25 and 100-pound bags

Price: 25 lbs \$1.95, 50 lbs \$3.60, 100 lbs \$7.00

Price: 25 lbs \$2.10, 50 lbs \$3.90, 100 lbs \$7.60

PRICES ON THIS PAGE ARE F. O. B. PORTLAND



## Blatchford's Rabbit Meal

A Milk Substitute for Weaning Rabbits, Nursing Does, "Meat" Rabbits or for Conditioning for Show.

Blatchford's Rabbit Meal should be every young rabbit's first feed and should always be fed to nursing does, being thoroughly steam cooked it cannot cause indigestion or slobbers.

Produces healthy, well developed, fast growing rabbits with good coats of fur. All rabbits relish and thrive on Blatchford's Rabbit Meal.

Price: 25 lbs \$2.10, 100 lbs \$7.60

➡ If Your Local Dealer Cannot Supply You with Our Diamond Poultry Foods—Write Us  
BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG.





## POULTRY FOODS—Continued

### HIGH GRADE MEAT SCRAPS

**DIAMOND BRAND, SPECIAL.** A new meat product, perfectly prepared, fine ground and clean. The highest feeding value yet produced.  
Price: 1 lb 10c

### FISH SCRAP

A high grade poultry food, rich in protein relished by fowls—furnishing a clean, healthy meat ration. No chemicals or acids used in its manufacture, and it is free from meal and dust.  
Price: 1 lb 10c

### GRANULATED BONE

Our "Diamond Brand" is made from selected hard white raw bones, and of a superior quality; an indispensable food for laying hens.  
**DIAMOND.** Price: 3 lbs 25c  
**STANDARD.** Write for Prices.

### DIAMOND MEAT MEAL

A highly concentrated food. Being cooked meat, dried and ground. Very rich in protein. It should be mixed with the soft food. No hides or tankage in our meat meal, but, as its name implies, meat, cooked, dried and ground; unexcelled for egg-production.  
Price: 1 lb 10c

### GRIT

Every poultry raiser should keep a supply of grit in each pen. Made in two sizes, chick and hen size. We always send hen size unless otherwise ordered.

**DIAMOND CRYSTAL.** Price: 5 lbs 15c

### BLOOD MEAL

The most highly concentrated egg-producer on the market. To be fed in soft food. Unexcelled as a food for forcing growth of chicks or as an egg food.

**DIAMOND.** Price: 1 lb 15c

### SOJA BEAN MEAL

Fed same as egg meal. Prices: 3 lbs 25c

**ABOVE PRICES F. O. B. PORTLAND, except as noted. Write for quantity prices.**

### CHARCOAL

Our Charcoal is prepared especially for poultry; no dust; a good thing for bowel trouble, sour crop and indigestion; a health preserver.  
Price: 1 lb 10c

### FISH MEAL

A fine-ground, pure, sweet fish meal, containing protein—feed as you would meat meal; a rich, wholesome food for poultry.  
Price: 1 lb 10c

### OYSTER SHELLS, CRUSHED

We offer nice clean stock, free from dust and waste. These should be within reach of your hens at all times. In two sizes: coarse and fine.  
**DIAMOND.** Price: 6 lbs 25c  
**WESTERN.**

**STANDARD POULTRY SHELL.** A very good grade of mixed sea shell—sold by some dealers as oyster shell—but is not so good and has more waste.

### BIRD SEED

Not for planting. Special Prices in Quantity  
**P. S. Co.'s Best Mixed.** Per lb. postpaid 30c  
**Canary, best re-cleaned.** Per lb. postpaid 30c  
**Hemp.** Per lb. postpaid 25c  
**Millet.** Per lb. postpaid 20c  
**Rape.** Per lb. postpaid 25c

### ALFALFA MEAL

The best substitute for green food for Winter feeding; helps keep the egg basket full; mixed with the soft feed is good for large or small chicks; endorsed by leading experts.  
Price: 1 lb 5c

### POULTRY PEPPER COMPOUND

A good tonic and invigorator; ground.  
Price: 1 lb 25c

**OIL MEAL.** Price: 3 lbs 25c

## USE GERMOZONE--Keeps Poultry Healthy

Poultry diseases, even colds and roup, almost always start with bowel trouble. Bowel trouble starts mostly from musty or spoiled food.

Grain, whole or ground, if it becomes damp and lays around for a week or two is apt to become musty, and musty feed is poison for chickens.

**Germozone Kills or Counteracts the Musty Poison in Food—**

And, as a remedy for colds, roup, canker, sore head, swelled head, chicken pox, sores, swellings, loss of feathers, etc., Germozone is unexcelled.

**GERMOZONE is the cheapest hen-health insurance one can buy.** A 75c package of Tablets will last 20 hens 20 weeks, 400 hens one week, or one hen 400 weeks, or less than 10 cents per year per hen. It means better birds, fewer losses, less worry and trouble, and more eggs.

**Buy Germozone in the TABLET FORM—no loss from broken or spilled bottles easier to handle and carries safer in the mail.**

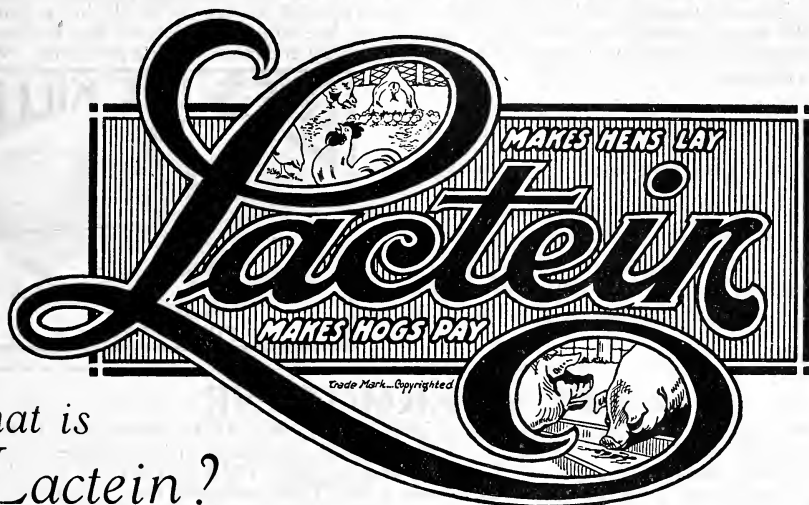
*Feed your laying hens plenty of Sunflower Seed. It is a splendid food for them, is cheap, and if you have a small piece of idle land you can produce sufficient seed to feed a large flock through the winter.*

**Use Sulphur** in connection with your fertilizers and make your soil give you the highest possible returns. It is a first class fertilizer, fungicide and insecticide. See pages 112 and 173.

**BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG**



# FOR POULTRY AND HOGS



What is  
*Lactein?*

**Lactein** is a condensed milk product, made from buttermilk, skim milk and whey, blended together, pasteurized and the lactic acid bacteria bred or developed to their very highest degree before the product is condensed by our own special process, which retains all the health giving food and tonic values, without the useless bulk of water.

**Lactein** can be used in any way that you would use raw buttermilk and you get the full value of buttermilk with the added advantage of this product being thoroughly sterilized and pasteurized; thereby killing all injurious bacterial growth which is only too common in the raw product.

One gallon of **Lactein** when diluted with water makes thirty gallons of feeding solution, enough to feed 1000 hens two days or 100 hens 20 days.

**Lactein** fed with grain food makes a complete, correctly balanced egg-producing and body-building ration — feeding high-priced grain which fails to produce the maximum of eggs is a loss, but if **Lactein** is added you are assured a profit.

**Lactein** on account of its high lactic acid content (which preserves it) will keep pure and retain its acidity almost indefinitely in any climate, when directions are followed.

## LARGEST POULTRY FARM IN THE WORLD

### *Recommends Lactein*

Corless Bros., Petaluma, Cal., Mammoth Poultry Farm of thirty thousand laying hens and now making elaborate preparations for an additional twenty thousand more, and by far the largest poultry farm in the world, says:

"We have used **Lactein** and we are satisfied that it is a first class article, a fine tonic and egg producer. For baby chicks we consider the feeding of **Lactein** indispensable. You may refer anybody to us and we will heartily recommend **Lactein**."

➡ If **Lactein** is profitable and indispensable to big successful poultrymen, it will prove just as profitable and necessary to you.

**Lactein** is put up in wooden barrels of 5, 10, 25 and 52 gallon sizes.

**PRICES: 5 gallons \$4.00; 10 gallon keg \$7.50; ½ bbl \$17.50; bbl \$31.20**  
F. O. B. PORTLAND

Order a barrel from your local dealer. Ask for **Lactein** and be sure you get **Lactein**. If your feed dealer does not handle **Lactein** we will see that you are supplied. Full information on request.

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## LEE'S FOODS AND REMEDIES FOR STOCK AND POULTRY

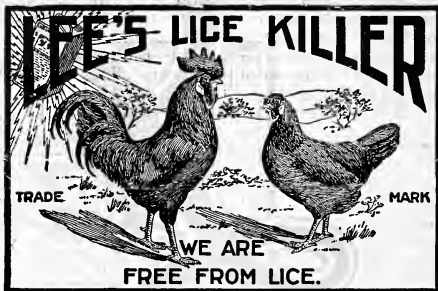
**T**HE GENUINE MERIT of the LEE FOODS and REMEDIES and their recognized superiority is their best guarantee, and you can depend upon them absolutely to do all that is claimed for them. The valuable booklets of the Lee Company are free to poultry keepers and stockmen, and contain reliable and complete information to date on poultry and stock feeding problems. We mail them on request.

### LEE'S LIQUID LICE KILLER

FOR 20 YEARS THE STANDARD

Destroys either by vapor or contact. No trouble to apply; just paint the roosts or wall at night. Rids poultry and houses of all vermin; is prepared exclusively for this purpose, and there is nothing just as good.

Price—Qt. 60c;  $\frac{1}{2}$  gal 90c; 1 gal \$1.50; 5 gal \$6.00



### LEE'S GERMOZONE

Regular use of Germozone insures **BETTER** health; **BETTER** chicks; **BETTER** layers; and the **RIGHT** kind of **BREEDERS**. Use it for Bowel Complaint in little chicks; for Cholera, Roup, and other diseases among the older fowls; and regularly **TWICE-A-WEEK** for **ALL** fowls. It prevents contagion, tones the system, and insures **BETTER** health for the entire flock.

Prices: Liquid, not prep'd, 4 oz bottle 40c, 12 oz 75c, 32 oz \$1.50, gal \$4.50; tablets, postp'd, pkg 75c

**LEE'S EGG MAKER** is not a tonic nor a medicine, but a meat food of great value. It will make hens lay, chicks grow, and keep them all in a healthy, vigorous condition.

2-lb pkg 50c; 5-lb pkg \$1.15; 25-lb pail \$4.50.

**LEE'S HEADLICE OINTMENT.** For little chicks. Large box, 15c

**LEE'S LOUSE POWDER.** 1-lb can 30c

**LEE'S WHITE DIARRHOEA REMEDY.** The best medicine for this dangerous disease of little chicks. Wt. 2 lbs; 12-oz bottle 50c

**LEE'S HOG REMEDY.** Cures all diseases of hogs and keeps them healthy.

$7\frac{1}{2}$  lb pkg \$1.00, mailing weight 9 lbs; 25-lb pail \$3.00.

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**LEE'S WORM POWDER** For horses, cattle, sheep and hogs. Safe and sure in result.

Pkg 25c; weight  $1\frac{1}{4}$  lbs

**LEE'S BEST CONDITIONER STOCK FOOD.** Promotes good health, digestion and assimilation.

7 lb pkg \$1.10; 25-lb pails \$4.50

**LEE'S PEERLESS GOPHER KILLER.** For killing gophers, squirrels, etc. Sure death.

Quart can, wt 3 lbs, 75c

**LEE'S PEERLESS BUG KILLER.**

Wt, pkg, 2 lbs; 12-oz bottle, 35c

**LEE'S SMOKE FLAVOR.** Hickory Smoke Extract applied to meat preserves it indefinitely, imparting the delicious flavor that is only otherwise obtained by smoking with green hickory.

12-oz bottle, wt pkg, 2 lbs, 50c; 32-oz bottle \$1.00.

**LEE'S FLYO-CURO.** We sell thousands of cans of this fly spray every season, and it gives good satisfaction.

Qt 70c;  $\frac{1}{2}$  gal \$1.00; gal \$1.50; 5 gals \$7.00. Mailing weights, qt 3 lbs;  $\frac{1}{2}$  gal 5 lbs; 1 gal 10 lbs.



## EGG-O-HATCH and EGG-O-LATUM

DON'T GET THE TWO NAMES MIXED

**Egg-o-hatch** is a dry powder. It is mixed with water and the resulting liquid is applied to eggs two or three times during the 21 days of incubation. It is a liquid that does three things—supplies oxygen for the growing chicks; absorbs carbon dioxide given off; makes more brittle and porous the shell of the egg.

Price 50c postpaid. Will treat 600 eggs.

**Egg-o-latium** is a white cerate. Rubbed over the shell of the egg it seals every pore so no air, moisture, odors, or germs can get in. Preserves the egg in all its original freshness. The application of Egg-o-latium is easily and quickly done. A dozen a minute and they will keep a year. Fresh eggs must be used, unfertile ones are best. One pkg. treats 50 doz. eggs. Price 50c postpaid.



PRICES ON THIS PAGE F. O. B. PORTLAND

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## Feeding and Care of Newly Hatched Chicks

Newly hatched chicks, whether incubator or henhatched, should not be fed before removing from the incubator or nest and they must not be removed until the chicks are all hatched and dried. This may be only a few hours or may take a day or two from start to finish. In the meantime, nature provides all the food the chicks need for the first two or three days of their life. Earlier feeding is to be avoided as it frequently causes indigestion. In the case of incubator chicks, it is customary to remove them any time from 24 to 48 hours after hatching. Place them in a brooder already warmed to a temperature of 95 degrees. The assembled chicks will raise this temperature to about 99 or 100 degrees which is right for the first few days. Gradually reduce so that in two weeks it is 90 and in three weeks 80. From then on 80 to 75 degrees is sufficient. This temperature refers to the heat in the hover and not the brooder outside of the hover. If you have a Buckeye Brooder Stove no attention to the temperature is necessary.

Always keep fine litter or chaff on the floor of the brooder. This should be changed when soiled. Also a plentiful supply of fine hard grit. Chick food can be fed on a board or shingle or in a feeding trough. Hard boiled eggs finely chopped, shells and all, mixed with stale bread provide a splendid meal for a starter. A little Diamond Chick Food scattered in the litter induces exercise and aids digestion. Being a normally balanced ration, it is therefore safer to feed than the home prepared foods. An active chick is a healthy chick.

Feed four or five times a day for the first few days unless the food is in a trough which does away with the need of frequent attention. Both methods have their advocates. The principal thing is to keep the chicks busy scratching. Diamond Chick Food is properly balanced to supply every need of the growing chicks, frame, flesh and feathers. Always ready for immediate use. Saves time and furnishes everything essential for the welfare of the chicks without waste. They will eat it all to the very last morsel.

## Scientific Poultry Feeding for Eggs

Chemical analysis shows that an egg is composed of the following ingredients:

Water.....	67 per cent	Lime.....	10 per cent
Albumen.....	12 per cent	Ash.....	2 per cent
Fat.....			9 per cent

Close observation shows Albumen, Fat and Lime are the ingredients we must provide for. Albumen is composed largely of nitrogen. Wheat contains the largest amount of nitrogen in grains. Oats are next. Blood is nearly all nitrogen. Corn is a fat producer and contains heat, consequently to produce eggs at a rapid rate you must supply the right material properly proportioned.

To parties wishing egg maker ready prepared we recommend our "Diamond Egg Food," containing all the necessary ingredients in exact proportion to give the maximum egg production. It should be fed with other food, either moist or dry, and is unsurpassed by any egg food on the market

## Shell—An Egg Necessity

Did you ever stop to think it would be an impossibility for a hen to produce an egg without carbonate of lime to make the shell to hold it together during formation and add strength thereafter?

Carbonate of lime is readily available from shells grown in salt water.

When fowls are kept on hard or frozen ground, we find small eggs and occasionally a soft-shelled egg is laid. They never fully materialize for the reason there is nothing to hold them together.

Remember, if you want eggs, keep oyster shell constantly before them and feed our "Diamond Egg Food." There is nothing better. Contains all ingredients for making the inside of the egg, acts as a tonic to the fowl, and when used in connection with shell-making material results are certain.

## Green Foods

The value of green food for poultry lies in the fact that it makes the other foods more digestible, also it contains in a soluble form certain mineral salts that the fowls need and should always form a part of the daily bill of fare. There is little doubt that clover is the best green food. Second-crop clover should be cut just as it is coming into bloom and very carefully cured. For hens, it should be cut into very short lengths. May be fed alone at noon or mixed in the morning mash with boiling water. If clover is not obtainable, cabbage, kale or turnips may take its place but should be fed raw.

## To Positively Stop Hens and Dogs Eating Eggs

Break a small hole at end of egg, shake out about one-fourth of the contents, and then pour in one-half teaspoonful of extract of Gentian. Shake the egg well and stop the hole with paraffin, placing it in the nest where they can get it. Gentian is a very bitter tonic and the taste always stays with them. It is harmless, and one which forever satisfies the taste for eggs.

## Incubation Table

This table is correct if temperature of Incubator is kept correct throughout the hatch, but some variation would occur, if for instance the Incubator ran too low, chicks would be a day or two later.

Eggs—Geese—30 days.	Eggs—Partridges—24 days.
Eggs—Turkeys—28 days.	Eggs—Pheasants—25 days.
Eggs—Chickens—21 days.	Eggs—Guinea Hens—25 days.
Eggs—Ducks—28 days.	

To make a one per cent solution or one part to a hundred is as follows:

$\frac{1}{4}$ teaspoonful to one tumbler of water.	1 teaspoonful to one pint of water.
8 teaspoonsful to one gallon of water.	

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# Practical Hints and Suggestions for

DISEASE	CAUSE AND SYMPTOMS
<b>Constipation</b>	Loss of appetite. Too liberal feed, such as oats, buckwheat, etc.
<b>Diarrhoea in young Chicks</b>	Unsuitable food; no grit to aid digestion. Brooder too cool, allowing chicks to chill.
<b>Egg Eating</b>	Kept on frozen or unplowed ground; no shell making material to be found.
<b>Gapes</b>	Worms in windpipe of young chicks. Picked up in grass, soil and filthy drinking water. Wings droop. Head up, accompanied by sneezing, gaping.
<b>Limber Neck</b>	A form of poisoning caused by eating decomposed meat, etc. Fowls can't hold neck straight; neck twists and fowls stagger.
<b>Obstructions in Throat</b>	Trying to swallow too large particles of food. Choking.
<b>Apoplexy</b>	Eyes dilate, head hangs down, wings droop, beak drips, comb blackens stiff neck, brain enlarged or broken.
<b>Bumble Foot</b>	Sores or callous caused by jumping from too high perches.
<b>Frosted Combs</b>	When in cold weather combs freeze, turn black and become sore.
<b>Chicken Pox</b>	Scaly pimples form on head, face, neck, etc., very contagious.
<b>Scaly Legs</b>	Scaly formation on feet and legs, insects found under each scale. Very contagious; due to filth.
<b>Head Lice on Small Chicks</b>	Contaminated from the hen.
<b>Swollen Head, Watery Eyes, Redness, First Stage of Roup</b>	Caused by dampness, drafts and filth in winter, in summer by lack of shade or protection from extreme heat. Swelled head.
<b>Roup</b>	Same as above, advanced stage. Swelled and inflamed head; breathing bad; offensive breath and discharge at mouth and nose; eyes red and canker spots on throat.
<b>Cholera and Bowel Trouble</b>	Nothing to digest the food. Without the use of good sharp grit indigestion invariably follows and indigestion is acknowledged to be indirectly the cause of most poultry ailments.
<b>Colds</b>	Dampness, drafts, etc. Eyes red, watery; inflamed head.
<b>Lice and Mites</b>	Filth and lack of spraying. Infested fowls are constantly on the run.
<b>Feather Eating</b>	Generally caused by fowls pulling them out for the blood contained.
<b>Canker</b>	Generally follows roup. Yellow mucous coating, nose, throat and windpipe. Very contagious.
<b>Bronchitis</b>	Colds, coughs, wheezing, caused by dampness, drafts and filth.
<b>Consumption</b>	Last stage of roup. Very contagious.
<b>Indigestion</b>	Lack of digestive agents.
<b>Crop Bound</b>	Full crop, hard lump, passage stopped from crop to gizzard. Cause, bacon rinds, tough meats, cords, gunny sack ravelings and various tough and hard substances, wire grass, etc.

 **Keep your yards and houses clean and well ventilated—use with Lee's Liquid Lice Killer—and you**



# Treatment of Poultry Diseases

## REMEDY

Feed green feed—vegetables and dampened bran; a teaspoonful of olive oil daily for 2 or 3 days.

Feed mash of finely minced, hard boiled eggs; also cooked rice and cooked vegetables; use Germozone in all drinking water and keep Grit constantly before them; disinfect the premises with Poultry Dip. A permanent cure results.

Feed constantly crushed oyster shell and granulated bone.

Remove infected chicks to clean ground; administer Germozone and keep premises well disinfected.

Pour medium warm water down throat until crop is full; hold head down and work contents of crop out of mouth; repeat 3 or 4 times; then give 2 tablespoonsful of castor oil and 2 of milk; feed mash sparingly and keep fowl quiet. Use Grit in feed troughs; use Germozone in all drinking water.

Pour down the fowl's throat 1 to 2 teaspoonsful of olive oil or sweet oil; massage throat until substance is worked out of mouth.

Bleed by cutting a toenail of each foot; drench the head frequently with cold water, until disease abates; for a few days feed dampened bran and skimmed milk; disinfect premises with Lee's Dip.

Lower the perches, lance the swelling crosswise and remove the pus and hold the feet two minutes in Lee's Dip, diluted as directed. Keep the fowl out of the dirt.

Bathe the comb with Germozone or Camphorated Oil.

Dip the fowl thoroughly with Poultry Dip, as directed. Thoroughly disinfect the premises.

Hold the fowl's legs in Lee's Dip two minutes, as directed. It rarely fails and will cause legs to again appear normal. Grease legs weekly for a month, the scales will drop and leave the legs healthy. Burn the old perches—the scabies are on the roost.

Use head lice ointment, a never-failing remedy.

First remove cause, then use Germozone as directed. Hold the fowl's head under water until it starts to strangle. It will then reach all diseased parts. Use Lee's Dip to thoroughly disinfect the premises.

Use Germozone in water. Hold head under water until starts to strangle. Disinfect thoroughly with Lee's Dip. Clean out nostrils and inject Camphorated Oil.

Use Crystal Grit constantly. Then Cholera cure powder in all drinking water. Spray the premises thoroughly with Lee's Dip.

Give a 2-grain quinine pill and use Germozone in all drinking water.

Use Lee's Liquid Lice Killer, as directed on the can. Nothing better.

Feed blood meat or fish scraps in all food.

Remove cause. Use Germozone as directed. Spray the premises with Lee's Dip.

Remove cause and use our Germozone. Disinfect with Lee's Dip.

Get a sharp ax and remove head. Burn the remains. Disinfect the premises with Lee's Dip, to save others.

Feed constantly Grit and sprouted oats; use Germozone in drinking water, as directed. In five days all are well.

A dose of sweet oil. Massage the crop upward and downward. If this fails, open the crop remove contents and sew up with silk thread; feed Grit constantly to prevent.

**Germozone in the drinking water—spray the roosts and houses will seldom be troubled by poultry ills.**

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Books are the inspiration, the authoritative guide, that enables you to command success, and you should have the standard references on the subjects in which you are interested.

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BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



BOOKS ON BEES AND BEEKEEPING.

Every one who expects to make a success with bees should have at least one of the best bee-books as well as a bee paper. Quite a complete list follows:

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BEE-HIVE, THE BUCKEYE. Root, 80 pages.....	P.	Price 10c
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FEEDS AND FEEDING. Root.....	P.	Price 20c
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FIRST LESSONS IN BEEKEEPING. Dadant, 150 pages, 5¼x7¾ inches.....	P.	Price \$1.10
HABITS OF THE HONEY-BEE. Phillips.....	P.	Price \$1.00
HONEY IN COOKING, USE OF. Root, 64 pages.....	P.	Price 10c
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SULPHUR—An Essential Fertilizing Element

The work of the Southern Oregon Experiment Station, under the direction of Dr. F. C. Reimer, has proved conclusively that sulphur is a very important factor in the development of plant life, improved methods of analyzing plants for their elemental fertilizer content showing a greater amount of sulphur than phosphoric acid, nitrogen or potash.

Sulphur used in combination with other fertilizers has greatly increased the yield over crops that were given the same treatment without the sulphur.

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We offer **Diamond-S-Sulphur fine ground and 100% pure.** The finer the sulphur is ground the quicker its effects will be noted and the greater will be the increase in the crop.

Write for Prices on sulphur or send in your order, we can give you full value for your money and can ship promptly any amount from a pound to car lots.

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That the application of Sulphur to the soil increases crop production is now a proven and accepted fact, but it is necessary that the Sulphur so applied shall be in such a form and of such a composition that the maximum results may be obtained by its use, requirements which are fully met by the Toro Brand of Sulphur which we are now offering.

The Toro Brand Sulphur is specially prepared, containing in addition to the pure refined sulphur, other materials added for the purpose of hastening and equalizing the action of the soil bacteria in reducing the raw sulphur to sulphate, the only form in which it is available for the use of vegetation.

Sulphur applied in this form is readily utilized by plants as a stimulating food; improves alkali soils by neutralizing the alkali; enables the roots of the plants to store up larger quantities of atmospheric nitrogen; transforms otherwise insoluble phosphates and potash into available plant food and increases the feeding value of the crops.

Toro Brand Sulphur is supplied in the form of a powder so fine that more than 80 per cent will pass through a 150 mesh screen, will not harden into pellets or cakes in the sack and is easily applied either with a lime or

fertilizer spreader or it may be mixed with the grain and applied through the ordinary seed drill. Toro Brand Sulphur should be applied in the late Fall or early Spring in order to get the benefit of the rains. In irrigated districts it may be applied at any time of the year.

Toro Brand Sulphur is packed in 110 lb. sacks and should be used at the rate of not less than one sack per acre. If applied in excess of crop requirements the surplus is not lost but remains in the soil to be taken up by following crops.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



## BARGAINS

On this page listed below, will be found lines of goods that we have discontinued handling, and we are offering the surplus stock, at prices as you will see, at about half what goods of the same quality can be bought at.

The goods are **World** known and need no recommendation.

Place your order early for no orders will be filled when the present stock is exhausted. **Stock very limited.**

### International Stock and Poultry Foods, Remedies, Etc.

Every package of "International" is guaranteed to fulfill every claim made for it, or your money back for the asking. We sell "International" on its merits. You are the judge. Full directions on each package.

#### FOR POULTRY AND STOCK

International Poultry Food—Pkgs; 25c wt 2 lbs—50c wt 4 lbs—\$1.00 wt 7 lbs.

International Louse Killer—Weight 2 lbs pkg 25c.

International Lice Paint—60c cans wt 5 lbs—\$1.00 can wt 10 lbs.

International Aseptin—Per box 25c postpd.

International Rheumatism Oil—Per bottle 20c.

International Sudal—Box 25c postpaid.

Dan Patch Stable Liniment—\$2.00.

International Dip—1 gal can \$1.50.

International Compound Absorbent—\$2.00.

International Gall Cure—25c and 50c.

International Heave Cure—Weight 1½ lbs Pkg 35c.

International Worm Powder and Tablets—Pkg 50c wt 1¼ lbs.

International Pheno-Chloro—50c wt 2 lbs—\$1.00 cans wt 3 lbs.

International Harness Dressing—Price 20c wt 2 lbs—large can 35c wt 3 lbs—5 lbs 75c—10 lbs \$2.00.

International Honey Tar Foot Remedy—35c can wt 2 lbs—75c can wt 3 lbs.

International Colic Cure—50c wt 2 lbs—\$1.00 bottles wt 3 lbs.

International Silver Pine Oil—20c 1 lb—35c wt 2 lbs—75c bottles wt 3 lbs.

International Distemper Remedy—Pkg 50c wt 1¼ lbs.

International Hoof Ointment—Wt 1½ lbs \$1.00.

## GLASS EXHIBITION JARS

THESE are the standard types and sizes best suited to display of agricultural products, such as grains, nuts, fruits or any material that can be displayed or preserved in a glass jar of this kind.

Fair Boards, Granges, Schools, or Civic Organizations interested in preserving samples and specimens for exhibition should write for special prices.

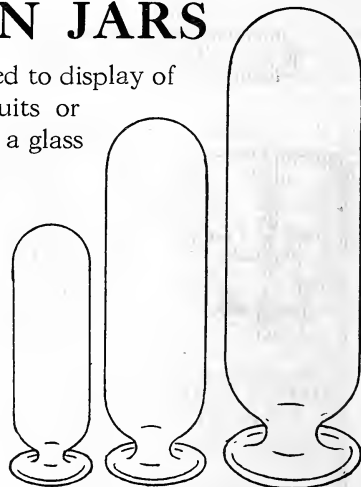
**PRICES:** Three sizes, 11-in. 35c, \$3.50 doz.; 14-in. 65c, \$7.00 doz.; 17-in. \$1.00, \$11.00 doz.

### DIAMOND FERTILIZERS

HAVE HELPED OTHERS TO WIN—THEY WILL HELP YOU

Special Free Booklet, "FERTILIZERS," on request

See pages 111-112



**POISONED BARLEY** for gophers and squirrels. This is prepared under the Government formula and is highly recommended. One pound packages while they last **20 cents each.**

#### FOR POULTRY

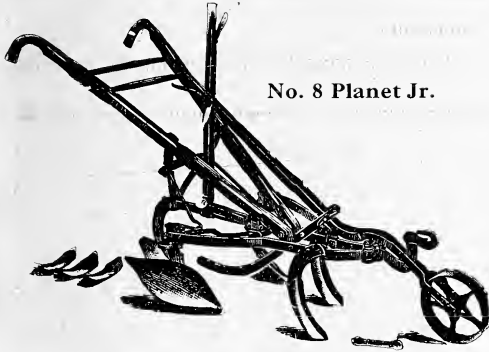
**DIAMOND Roup Cure.** Small, 50 cents; large, \$1.00.

**DIAMOND Cholera Cure.** 50 cents.

BEFORE ORDERING READ CAREFULLY INSTRUCTIONS AND CONDITIONS, PAGE TWO OF CATALOG



# Planet Jr. Garden Tools



No. 8 Planet Jr.

We have only a limited number of the following tools, and offer at reduced prices until sold:

No. 4. Plain five-tooth expanding—one-horse Cultivator with wheel. Weight 56 lbs. Factory price \$21.00. Our Special at \$15.00

## No. 8 PLANET JR.

### Horse Hoe and Cultivator

In general use throughout the civilized world. Is strongly built to withstand incredible strain, yet it is light and easy to handle. It opens and closes furrows, hoes right up to the plants without danger of injuring, throws dirt to or from the row and throws back from center again. With Steel Wheel. Weight packed 83 lbs. Factory price \$28.00. Our Special at \$21.00

## No. 9 PLANET JR.

### Horse Hoe and Cultivator with Steel Wheel

This admirable tool has a plain wheel instead of lever wheel. It has the high frame, patented hollow steel standard, patent lever. Star wheel, patent lever expander, and hollow steel wheel arms. Weight packed 70 lbs. Factory price \$24.25. Our Special at \$19.00

No. 10.C ombination Farm and Garden Horse Hoe, Cultivator, Furrower, Plow and Vine Turner. Weight 112 lbs.

Factory price \$33.00. Our Special at \$17.50

Planet Jr. Grass Edgers runs on the walk or grass equally good on curved or straight work. Weight 26 lbs. Our Special at \$5.00

No. 45. Riding Harrow and Cultivator for preparing ground for grain or vegetables or for general orchard work—complete with extension.

Factory price \$100.00. Our Special at \$50.00

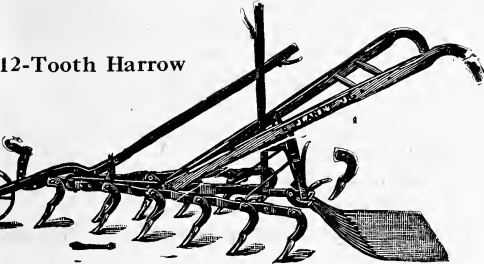
No. 70. Pivot Wheel Riding Cultivator, Furrower and Ridger.

Factory price \$150.00. Our Special at \$50.00

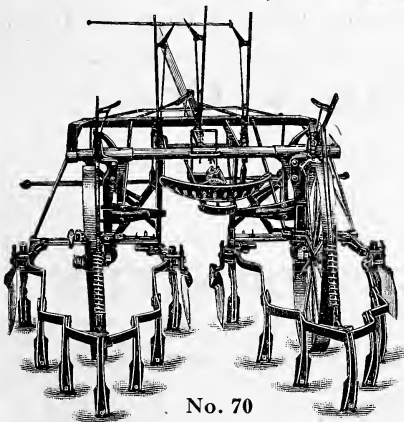
## No. 90 PLANET JR.

### 12-Tooth Harrow, Cultivator and Pulverizer

Works deep or shallow, coming up close to row without injuring plants, cuts out all the weeds, stirs and mellows the soil. Width, adjustable, 12 to 32 inches. A special favorite with strawberry growers, market gardeners and truckers. With Steel Wheel Complete. Weight packed 74 lbs. Without Pulverizer, Factory price, \$23.75. Our Special at \$20.00. Plain, Factory price, \$18.00. Our Special at \$14.00



12-Tooth Harrow



No. 70

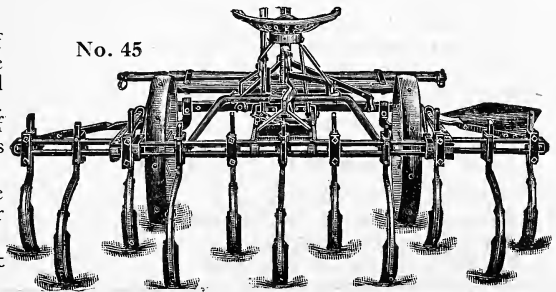
All prices on this page are F. O. B. Portland, Ore.

We have discontinued the handling of Planet Jr. Horse Tools, and therefore are offering the above at a very substantial reduction from present Factory price. Should you be contemplating the purchase of such tools you certainly cannot afford to pass this up.

We only have a limited number of these machines and no orders will be filled after present stock is exhausted.

Place your order early. They will not last long.

No. 45







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## NOTICE

CORN, OREGON EVERGREEN, page 19.

CORN, PORTLAND MARKET, page 19.

Owing to crop failure we will not be able to supply seed of these varieties this season.

CRESTED DOG'S TAIL, listed on page 52, has advanced to 1 lb. 75c, 10 lbs. \$6.00.

PAEONIES, listed on page 89, note the following changes in price:

All 50c bulbs advanced to 60c.

All 60c bulbs advanced to 75c.

STONE DRINKING FOUNTAINS, page 157:

½ Gal. 75c each, F. O. B. Portland.

1 Gal. \$1.00 each, F. O. B. Portland.

2 Gal. \$1.50 each, F. O. B. Portland.

ONION SETS, listed on page 28:

Bottom Yellow, 25c per lb. postpaid.

Top, 30c per lb. postpaid.

Shallots, 30c per lb. postpaid.

## EGGS FOR SETTING

We are offering our customers the chance of a lifetime to secure, for breeding purposes, settings of **WHITE LEGHORN EGGS** of the highest possible quality, Hollywood Strain.

These eggs are from hens with record of 292 to 309 eggs per year, mated to males from a strain with record of 300 to 307 eggs per year.

If you want to bring your own flock up to the highest possible grade, or raise White Leghorns for sale, it is impossible for you to find better stock.

**Price, \$15.00 per setting of 15 Eggs**  
F. O. B. Portland

Safe arrival guaranteed. **WRITE**

SUNFLOWER, page 53.

For seed, 1 lb., postpaid 25c; 10 lb. F. O. B. \$1.50; feed 5c lb. less.

From.....

P. O.....

**PORTLAND SEED CO.**

**PORTLAND,**

**OREGON.**



**POULTRY AND BEE  
SUPPLIES**

**Trees  
Plants  
Roses**

**Tools  
and Spray  
Pumps**

**MANUFACTURERS  
OF  
FERTILIZERS**

We have a complete library of the latest works of recognized authorities. For list see General Catalog

**Portland Seed Company, Portland, Oregon**

**WRITE YOUR ADDRESS PLAINLY** IN THE BLANKS BELOW; also keep your order separate from other matters you may wish to write about. This enables us to FILL ORDERS RAPIDLY and correctly, and answers to your inquiries will not be delayed or overlooked.

**DON'T FORGET TO SIGN YOUR NAME**

Do not write in this space	Name _____	Do not write in this space
	Post Office _____ Rural Route No. _____	
	Station _____	
	County _____ State _____	
	Date _____ Amount Enclosed, \$ _____	
	Forward by _____	
	State if wanted by mail, Express or Steamer	

 In Ordering Peas, Beans and Corn by the Pound to be Sent by Mail, be Sure to Add the Postage

[illegible]

NOTE.--We use every precaution in procuring fresh, pure and reliable seeds, etc., but we, in common with other responsible seed houses, sell our goods subject to the following disclaimer, it being that adopted by the American Seed Trade Association, I. c.:--We give no warranty, expressed or implied, as to description, quality, productiveness or any other matter of any seeds, bulbs, nursery stock, roots or plants we send out, and will not be in any way responsible for the crop. If the purchaser does not accept the goods on these terms they are to be returned at once.--Portland Seed Co.



# NEW PARCEL POST RATES

**PARCEL POST RATES** are based on **DISTRICTS** and **ZONES**. **THE DISTRICT** includes the office where mailed and the rural routes therefrom.

**A DISTRICT RATE OF 5 CENTS** for the first pound and **1 cent** for each additional two pounds or fraction thereof up to **70 lbs.** (the district weight limit) is charged between points in this district.

**First and Second Zones** cover a radius of 150 miles from the point of mailing, having a weight limit of **70 pounds** and a rate of **5 cents** for the first pound and **1 cent** for each additional pound, or fraction thereof. The **Third Zone** also has a weight limit of **70 pounds**.

A weight limit of **50 pounds** applies to the **fourth, fifth, sixth, seventh and eighth zones** with rates increasing with the distance. See table.

**SIZE AND WEIGHT.**—A Parcel Post package may weigh from 4 ounces to 70 pounds for the first, second and third zones—with a 50-pound weight limit for fourth to eighth zones, and **must not exceed in size 84 inches in length and girth combined.**

**Four Ounces** or less will be charged for at 1 cent per ounce or fraction thereof, **except on Books, Seeds, Plants, Bulbs, etc.,** which are 1 cent for 2 ounces up to 8 ounces for any distance.

We have catalogued the weight of most items mailable by Parcel Post and by reference to the table you can always figure your postage.

**DAY OLD CHICKS AND BEES** cannot be sent **C. O. D.** Parcel Post.

Parcel Post Rates apply to <i>Seeds, Plants and Books</i> weighing over 8 ounces. Other fourth-class matter over 4 ozs. is charged at pound rates	First Pound or Fraction Thereof	Each Additional Pound or Fraction	
Local or District Rate— <i>Portland Office</i> and Rural Routes therefrom	\$0. 05	½ cent	Weight Limit 70 lbs.
1st Zone } up to and including a radius of 150 miles from 2nd Zone } the point of mailing.....	.05	\$0. 01	Weight Limit 70 lbs.
3rd Zone.....	.06	.02	Weight Limit 70 lbs.
4th Zone.....	.07	.04	Weight Limit 50 lbs.
5th Zone.....	.08	.06	Weight Limit 50 lbs.
6th Zone.....	.09	.08	Weight Limit 50 lbs.
7th Zone.....	.11	.10	Weight Limit 50 lbs.
8th Zone.....	.12	.12	Weight Limit 50 lbs.



## WAR TAX

On Packages requiring 25c Postage add 1c Tax; on 26c to 50c add 2c Tax; over 50c add 1c for every 25c or Fraction thereof.



The 8th zone rate applies to **ALASKA, HAWAII, the PHILIPPINES and SHANGHAI, CHINA,** with **20 lb.** weight limit—To **CANADA, MEXICO, CUBA and PANAMA,** when over 4 oz. and not exceeding **4 lbs. 6 oz.** **20 lbs.** can be sent to **MEXICO and PANAMA** as Foreign Parcel Post.

“DIAMOND QUALITY”

## FERTILIZERS



Ask for our Special Fertilizer Catalog, containing valuable information on the use and application of Fertilizer.

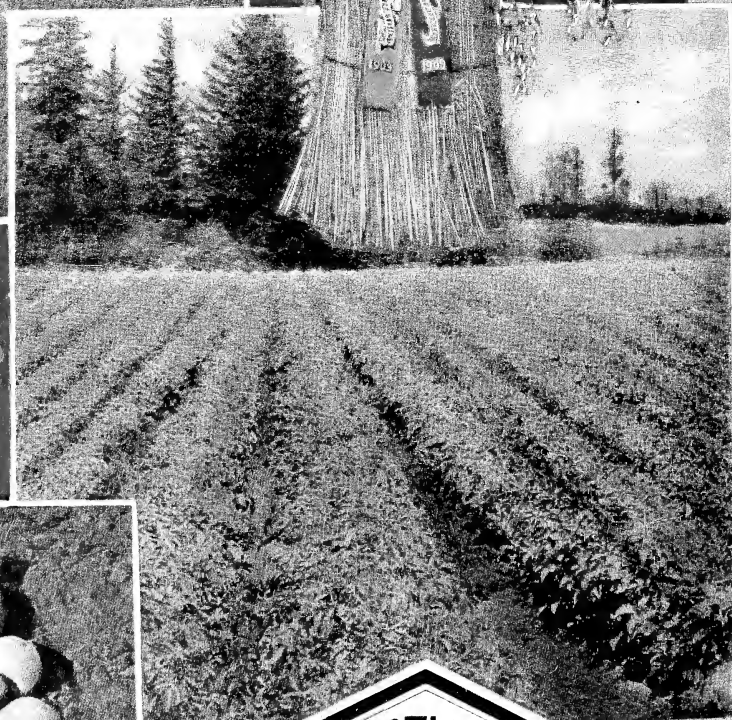
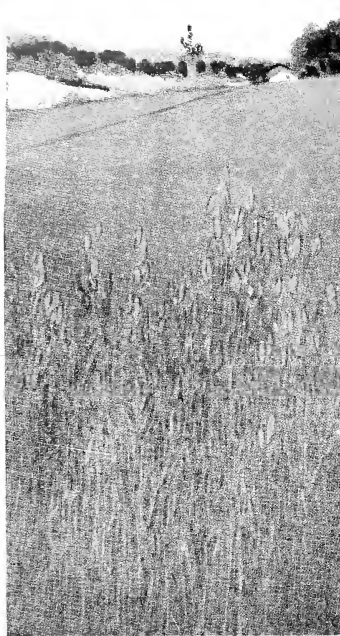
The base of “Diamond” Fertilizers is **Bone Meal and Bone Tank-**age, to which is added the necessary **Chemical Elements.** No sand, earth or other cheap filler is used. They are of guaranteed analysis, conforming to the standards required by the State Laws.

	POUNDS PER ACRE	FERTILIZER TO USE	WHEN TO APPLY
Apples.....	400 to 600.....	Fruit.....	Fall or early spring.
Asparagus.....	300 to 600.....	Vegetable.....	
	100 to 200.....	Nitrate of Soda.....	Spring.
Berry Bushes.....	400 to 800.....	Fruit.....	Fall or Winter preferred, or early spring.
Fruit trees and bushes.....	400 to 800.....	Fruit.....	Fall or Winter preferred, or early spring.
Flower beds.....	See Plants, etc.....		
Grapes.....	400 to 800.....	Fruit.....	Fall or early spring.
Grass for lawns.....	400 to 800.....	Lawn.....	Apply fall or spring, broadcast.
House plants.....		“Diamond” Plant Food.....	Directions on each package.
Nursery stock.....	325 to 650.....	Vegetable.....	Early Spring.
Plants, flowering out-door.....	A teaspoonful to a plant or broadcast..		Worked in the top soil, when cultivating or making beds.
Roses, etc.....	½ to 1 lb. per plant..	Lawn.....	Fall, winter or spring.
Shrubs, trees, etc.....	½ to 3 lbs. per plant..	Lawn.....	Fall, winter or spring.



# "Diamond Quality" Seed Oats

SEE PAGE 55



## Earliest of All Potatoes

SEE PAGE 39

